

American **FORESTS**



CHRISTMAS 1934

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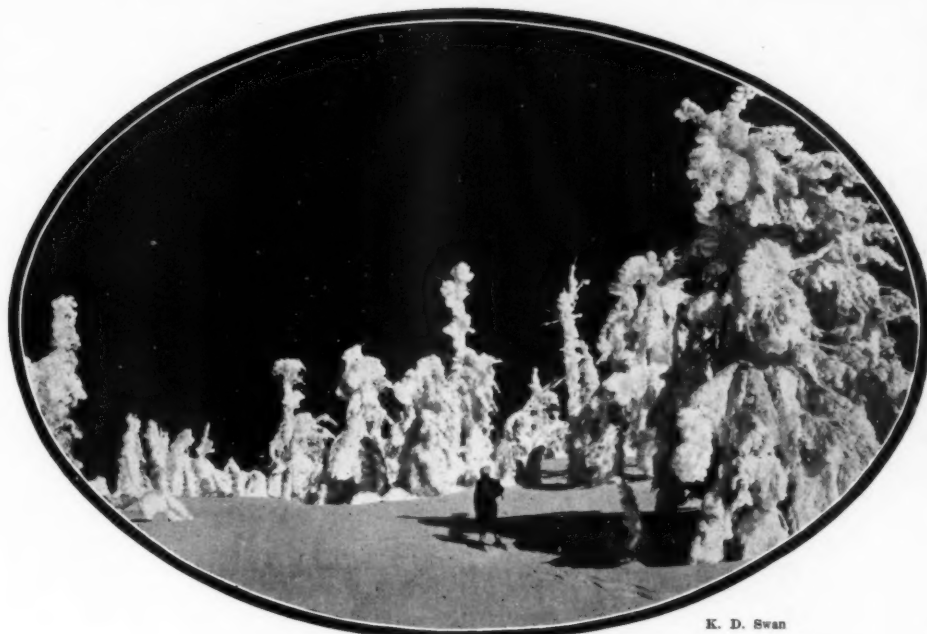
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Alice in Wonderland

K. D. Swan

AMERICAN FORESTS

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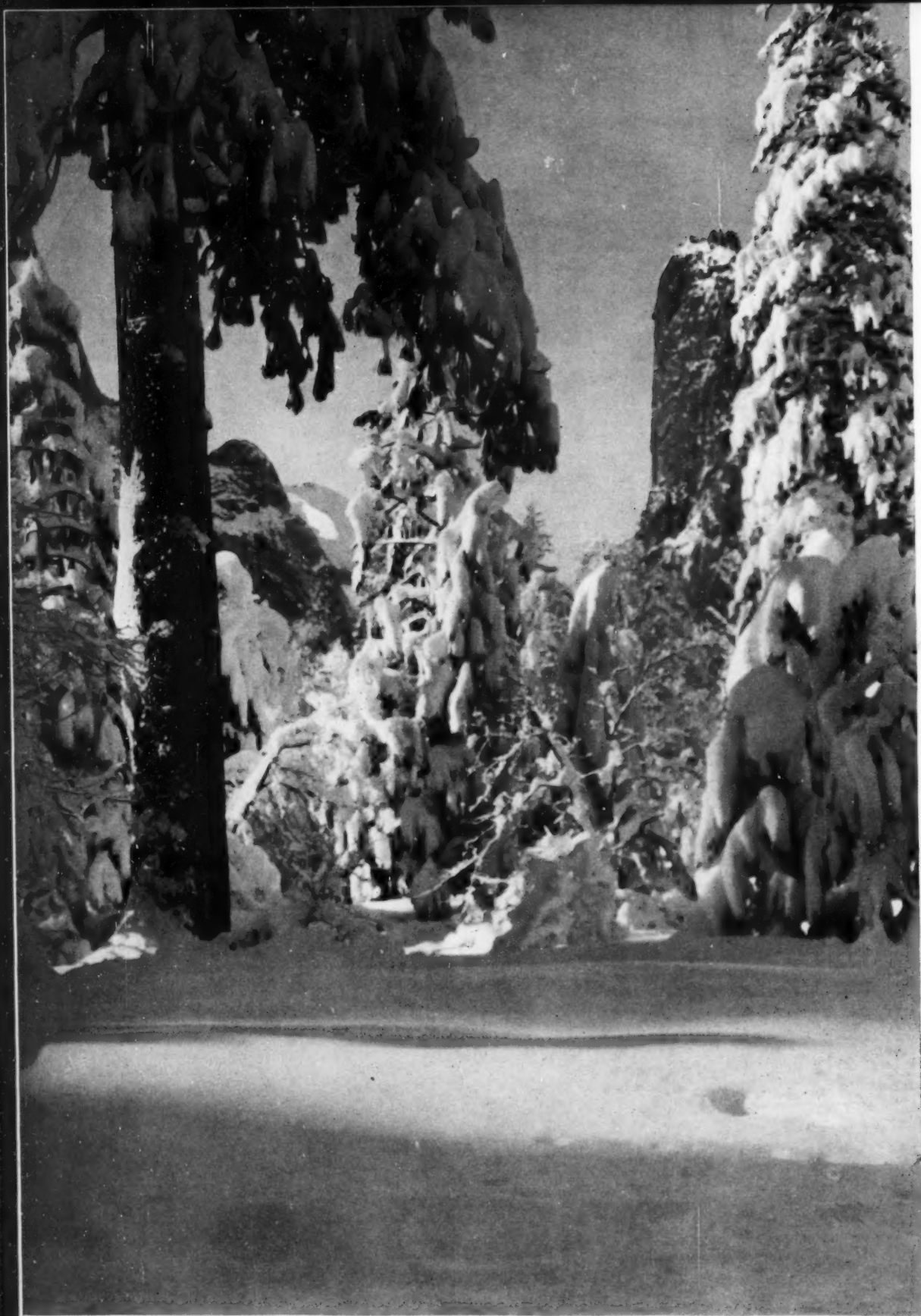
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Courtesy The National Park Service

The artistry of winter has hung with heavy ermine these great trees in the Yosemite. And the camera—in a split second—transcribes a view winter has worked for months to produce.

IN QUEST OF WINTER'S ARTISTRY

By WINTON WEYDEMEYER

Photographs by the Author

EMERGING at last from the dense evergreen forest into the slide-swept valley of the North Fork, eagerly we turned toward the western sky.

"Hurrah!" cried Don. "Maybe we'll get a lucky break—for once!"

"It looks promising yet," I replied hopefully. "I'd like to make *one* trip when the sunshine lasted until we reached the summit. I've packed this twenty pounds of camera and equipment to the top of Twin Peak a dozen times, and never beat the clouds to it yet, but,—never say die."

"Well, our only chance now is to climb straight up the slide to the peak. If we can't make it, at least we can slide back. Man, look at the snow on those trees up there! Let's go!"

"Every time we climb this Jonah we swear never to try it again," I said grimly. "But if the sun holds out for another three hours we might get a snap or two this time. Here's where my mountain goat skis have a real test."

Across the narrow ravine footing the precipitous mountain I glided, while my brother followed more slowly on his snowshoes.

Twin Peak! What memories the name arouses, of strenuous trips taken to secure camera records of the matchless artistry of Winter. Here in the high northern Rockies the photographer who seeks to translate to his inadequate medium the transcendent art of Nature must seek the "treasures of the snow" during the greater part of the year. Flower-decorated Spring comes slowly, tardily, now dazzling one with her glowing beauty, now discouraging one with cool aloofness. Summer, vibrant with the rhythm of life and growth, passes swiftly. All too quickly blushing Autumn comes, hesitates, and is lost in Winter's soft embrace. Then for eight or nine long months the feminine handiwork of the motherly seasons lies dormant or destroyed beneath a furrowed argent blanket, while Winter—relentless, stern, eccentric Winter—decorates the passive land with mutable examples of his incomparable

artistry. Shrubs and bushes were quietly bowed beneath the celestial benediction of the winter clouds. And everywhere, awaiting discernment by dull human eyes, was exhibited the amazing pattern and symmetry of snowflakes. But we had been eager to leave for a day the commonplace examples of Winter's art in the valley, and fight our way to that sterner battleground of earth and air—timberline. Undaunted by the memories of previous trips among the winter-ridden Rockies of Montana, with cameras on our backs we again attacked ramparted Twin Peak.



Working with hydrogen and oxygen, combined as water in its various physical forms, Winter builds up, molecule by molecule, drop by drop, flake by flake, the inconstant specimens of his unique sculpturing.



How varied is the handiwork of Winter! Here a sunlit summit appears as a ghost in the night—its trees, costumed by a passing storm, enfolded in soft robes of white.

Below us, the white course of the drift-covered North Fork narrowed to our view as we climbed. Up and up, to the very summit of the glistening peak towering high above us, reached a narrow treeless ribbon of white—the ancient pathway of numberless avalanches. Leaving a feather-veined track in the deep, soft snow, slowly I made my way upward on the “mountain goat” skis I had designed especially for such foolhardy trips as this. So steep was the way that with his webs Don made no faster progress than I.

Now for the first time during the day clouds appeared, drifting about the upper slopes of the mountain, and hiding the peak from our view. Anxious lest our cameras should again prove useless, we climbed straight upward as fast as was physically possible. Finally, with the summit still towering fifteen hundred feet above us, the steepness of the slide forced us to remove our skis and snowshoes; for a slight slip here might send one hurtling downward, perhaps with tons of snow accompanying. By turns breaking trail through the waist-deep cover of soft snow that lay over the older, firmer snow beneath, slowly we made our way upward.

Deeper and deeper on the spired alpine firs and twisted white-bark pines lay the concealing burden of snow. Fantastic shapes attested to the whimsies of the eccentric sculptor, Winter. Unlike his human rivals, who begin with coarse, massive material and carve and chisel down in a process of modeling, incising, refining, until the finished product remains, Winter works with simple, elemental materials—with hydrogen and oxygen, combined as water in its various physical forms—building up, molecule by molecule, drop by drop, flake by flake, the inconstant specimens of his unique sculptury.

Yet how varied are his methods, how various his treatments! Once in midwinter we climbed Twin Peak when the trees carried not a flake of snow, yet showed scarcely a single gleam of green; every trunk stood solidified with frost; every twig was “rimmed inch deep with pearl.”

Again we climbed through chilling clouds and fog to a sunlit summit, to find each frosted tree intricately draped with gleaming icicles, and shining with prismatic color. And yet again—oh trip that cannot be forgotten!—, stranded without skis or snowshoes, cut off from any other route home by softened snow, we scaled the precipitous cliffs composing the east face of Twin Peak in a blinding blizzard. After a four-hour struggle up storm-ridden, ragged ridges, over wind-hardened drifts which we could surmount only by scratching out precarious footholds with my camera tripod, we groped our way over the darkened summit. Numb with cold, and burdened with our again-useless cameras, we struck off down the long ridge leading homeward. And now suddenly a break appeared in the enveloping darkness; for a moment the sun, from the far horizon, shone upward upon us; and sharply outlined against the blackness of the surrounding blizzard, like a ghost in the night a spur of the mountain appeared, its trees, costumed by the storm, dazzlingly vested with soft draperies of white.

We spoke of that trip now, pausing on the slide for a brief rest, and hoped to find more opportunity to use our cameras than on that climb through the blizzard. The sun still shone at intervals, but along the western horizon lay a bank of clouds, toward which the sun was rapidly dropping. Don pulled his camera from its case.

“I’m going to take some snaps before the sun is gone, even if the best pictures are still above us. I don’t want to pack this outfit all day for nothing this time.”

“Go ahead,” I replied, beginning the weary climb again. “You can manage your hand camera, but I’ve got to make the peak. I’ve set up this view camera on its tripod on top of buildings, and astraddle great crevasses in rocky cliffs. I’ve balanced it on tree limbs, and on rickety rafts over deep water. I’ve raised it on long poles tied to the tripod legs, and perched it on foam-drenched logs above a raging stream. But I’d only lose time and temper



© William Thompson

"Among all the stirring struggles that the forces of Nature stage in their wars over disputed territory and their strivings for supremacy, there is none more intense or unrelenting than that at timberline, where the advance guards of the Legions of the Forest engage in mortal combat the entrenched troops of King Frost."

—John Oliver LaGorce.



Darkness often ends a fruitless quest for sunlit views—but the joy of photographing the artistry of Winter lies not so much in the acquirement of striking and artistic records as in the quest therefor.

trying to hang it to the wall of this snowslide. Besides, we might all slow up together a mile below, somewhere along the North Fork."

"Gangway!" called Don a minute later. "I'm coming up! I can't get out of this slide's trench—the snow is too soft outside—and it's shaded here. Step on it! The sun will be gone in half an hour."

"Step on what?" I gasped, supporting part of my weight on my skis, held in my hands, while I treaded desperately for solid footing. "This snow may be only knee-deep behind, but it's chin-deep in front."

By inches we gained on the now-close peak; by inches the sun drew closer to the waiting clouds. The surface of

the snow was covered with great loose scales of ice—jagged-edged, paper-thin flakes an inch or more in diameter, that slid down in miniature avalanches as we clawed the snow, with a melodious tinkling as of tiny cymbals. All about us were evidences of that age-old battle at timberline: convoluted clumps of snow that marked the position of the advance guards of the forest, buffeted by the relentless power of Hyem's forces.

"What tales they might unfold, could certain trees but speak, Of battles against the cold, on yonder lofty peak! By avalanche were caught, yet firm they held we know, How gallantly they fought, with hail and wind and snow!"

Our own battle was nearly (Continuing on page 595)

WHY BIG NATIONAL FOREST FIRES?

By ROY HEADLEY

Assistant Forester
U. S. Forest Service



Although National Forest organization and technique in fire control has reached a new high point, large fires still occur, as evidenced by this photograph of the McLendon Butte fire in Montana, taken on the afternoon of August 11 last.

NINETEEN hundred and thirty-four has been one of the worst but not the worst fire-weather year. Concentration of lightning fires has been much greater in previous years. The electrical storm which led to the loss of some 170,000 acres on the Selway Forest in Idaho, started only eight fires in that part of the forest. If pre-

vious behavior of lightning had been duplicated, there might easily have been fifty fires instead of eight. Average wind conditions were neither extremely good nor extremely bad.

The 1934 drouth while the most widespread and destructive the Nation has ever known, actually touched many National Forests rather lightly.

For fifteen years the official chart which records the deficiency or excess of precipitation for all National Forests has shown a spectacular cumulative shortage of rain and snow which in turn has meant a progressive decrease of moisture in the soil and a resulting decrease of the moisture content in the forest fuels. First in one place and then in another, this adverse climatic condition has led to unmanageable fires and disastrous losses.

To foresters, 1934 has been just one more dry year; in some places drier than ever before; in others not quite so dry as some previous years. In North Idaho where the worst fires in point of area occurred, moisture conditions in green timber are said to have been measurably better than in previous bad years.

The opening of the 1934 season found the National Forest organizations better prepared for their fire work than ever before. The Civilian Conservation Corps and N.I.R.A. and C.W.A. units



The service of Civilian Conservation Corps boys was immediately available for work on the fire line. This convoy of trucks has brought the men in to fight fire on the Pack River, in the Kaniksu National Forest.

had built protection truck trails that made possible traveling in a few hours distances that formerly required days or weeks and lookout structures and telephone lines, construction of which would have required many years at the old slow rate of progress. Not only were the physical accomplishments of the C.C.C. and N.I.R.A. crews ready for use but the crews themselves were at hand, well distributed over the Forests and ready for dispatching with the speed of city fire departments to any troublesome fire.

Speed tools for construction of fire control lines were not only available but were used. Horses and plows for the rougher country were ready to be dispatched with trained operators in fast trucks to the roadside point nearest a fire. For the less rugged country, light tractors and specially designed plows were ready to give fast and untiring service in digging the necessary fire lines. Tractor-trail-builders, those prize Forest Service tools for the initial work in constructing truck trails, were also available for clearing and digging fire lines. Forest Service radio equipment,—six hundred sending and receiving sets designed to meet exacting Na-



The use of the latest and most modern equipment under expert direction has featured the 1934 fire control work. These are bulldozers, clearing a back-fire line above Bimerick Meadows on the McLendon Butte fire.



And the C.C.C. boys come in and clear the fire-line of debris after the bulldozers have pushed away the fallen timber.

tional Forest conditions supplemented communication over available telephone systems. With landing fields available in roadless areas, airplanes provided invaluable service in fast transportation of men to fires — except when smoke prevented landings — and in searching out tiny fires not visible to lookout men. Water - using tools had reached a state of relatively

high development and public support for protection, despite the record of man-caused fires, was doubtless better than ever before.

Training, personnel management and executive skills—those vital arts of fire control — had reached a new high level. Rangers, forest supervisors and higher officers had the skill accumulated from long and varied training and fire experience. Techniques of actual fire fighting while still leaving much to be desired were far ahead of what they used to be. In 1919, fire covered 431,000 acres on the Selway Forest in Idaho. The worst loss in area in 1934 was in this old 1919 burn but the area lost this time was held to less than half the 1919 figure. In 1919, 191 fire fighters were used on the Selway fire and their work was so ineffective that they were with-

drawn entirely and the fires allowed to run until the coming of the fall rains. In 1934, 3,500 men were worked from fifty-two camps on the Selway, under the general planning and direction of one headquarters camp; 316 miles of fire lines, largely in the jungles of down trees resulting from the 1919 fires, were constructed, held and mopped up before the rains came and many additional miles of line were constructed, but lost before the fire was finally corralled. To assemble, transport, feed, bed and equip thousands of men with the speed required for fighting big fires is no mean accomplishment; but far greater executive skill is required to organize and get productive work from such an army of men on the shifting lines. That such skill had actually been attained was demonstrated on the Selway, where the topography was of the roughest sort and treacherous fires made their jumps and runs under the dense screen of their own smoke, requiring a recasting daily, or oftener, of general plans for the work of the numerous and scattered crews. That no more than three lives were lost on these fires is a notable record in itself.

With all of these advantages how have the National Forests fared in 1934? The season now closing is the seventh "bad" year during the first thirty years of systematic fire control. Its losses should first be compared with those of other "bad" years. This can be done readily by use of the following table:

Year	Acres burned within Nation- al Forest Boundaries	Percent of total area burned	Tangible Damage
1910	4,947,000	2.56	\$26,597,277
1919	2,263,000	1.30	5,354,646
1924	783,000	.44	1,892,605
1926	917,000	.51	5,716,660
1929	934,000	.52	493,229
1931	605,000	.34	4,409,309
1934	531,000	.29	1,237,108

Disturbing as are the 1934 conflagrations, it must be remembered that out of a total of 10,011 fires from January 1 to October 10, 1934, eighty-four per cent were held to less than ten acres in size and only about a dozen could properly be called "big" fires. While the dozen big fires account for over half the area burned they constitute only about one-tenth of one per cent of the total number of fires handled.

Results of fire control can be thrown into still clearer perspective by considering average annual losses by half decades.

Average percent of area burned annually within
National Forest Boundaries

1905-1909	.20
1910-1914	.72
1915-1919	.55
1920-1924	.27
1925-1929	.31
1930-1934	.20

These records speak for themselves and require no apology. Up to the date this is written the 1934 record in the National Forests of California, Oregon and Washington has been amazingly good: notwithstanding the severity of the present season, losses have been held far below the average of recent years. Even in North Idaho results were excellent on all but two National Forests. (Continuing on page 598)



The modern fire fighter uses a gasoline chain-saw to speed up the work of felling snags.



The use of water-tools has reached a state of high development. This is a marine pumper in action on the Lochsa River on August 25th.



A C.C.C. blister rust crew, called into action, building a fire line on the Pack River fire.



© Hobart V. Robert

"Running as if life were in his stride, and death only a heartbeat behind, there suddenly burst upon my sight the great Blackhorn Buck, a creature so remarkable, so romantic that I think it well worth while to attempt to record his history."



THE ODYSSEY OF THE BLACKHORN BUCK

By ARCHIBALD RUTLEDGE

TOWARD the close of a glorious day in late September I had gone down the river from home to roam over Peachtree, the ruined estate of one Thomas Lynch, Jr., youngest signer of the Declaration of Independence. The noble house which once stood on the bluff overlooking the lower reaches of the Santee was burned some seventy-five years ago; all the fields have reverted to nature. One comes upon the ruin of the edifice in wildwoods primevally beautiful. In my boyhood days the place used to be a favorite one with picnic parties; but now all the roads have grown up; and few human beings ever go there save a wandering negro hunter now and then, and a solitary naturalist like myself. There is about the ruins that haunting loneliness that we never associate with the mere wilderness, but only with an abode of man that nature has, in her slow, lovely, invincible manner, recaptured.

As I stood near the ruin, with the ruddy light of the low sun suffusing all the forest and tenderly lighting the vast delta beyond the river, I heard, distantly in the pinelands to the west, the chiming of a pack of hounds. As otherwise the world was very still, I could follow the direction of their running, and soon felt sure that the deer they were after was headed for the river; indeed, it was likely that he would pass near me, for I was on a famous deer-crossing. To the clamor of the approaching pack I now heard added the ominous report of a gun. Some one had shot at the deer; but as the wild music of the pack continued, I knew that hunter probably had been unlucky.

With summer waning into the deeper and surer loveliness of the autumn; with the wide peace of beauty's fulfilment upon the world; with limpid lights resting on forest and river and lone reedland, the tumult of the hounds seemed an impertinence. They were breaking in on the solemn pageantry of a season. They were the objective, forever intruding upon the mystery and the magic of the subjective.

While they were still perhaps half a mile away, and coming straight for me, I heard a telltale crashing in the jasmine-smothered sweet-bay thicket just west of the ruins. The fugitive deer was coming. If it was a buck, he surely would swim the river, affording me a rare opportunity to watch such a fine performance. As there was no wind, if I stood motionless, he might pass within a few yards of me without ever detecting me. It is a thrilling thing thus to have a great wild creature of the forest become, as it were, suddenly intimate and familiar. During the course of more than forty years of roaming the wilds, I have seen, I suppose, more than five thousand wild whitetail deer in their native haunts; but none of these so impressed me as the great stag that now came past the Peachtree ruins.

To begin with, there was the glamour of his background: the wild pinelands stretching away interminably toward the sundown; the fragrance and the golden-tinted radiance of the autumn afternoon; the calm beauty of the river to eastward, with the dreaming delta-lands beyond . . . And now, breaking in upon all this ancient serenity, here came a life-and-death race,—the fugitive and the followers invading a deserted estate,—the clamorous Present violating the

sleeping Past . . .

Out of a blossomy thicket, his head laid back far on his ample shoulders so that the jasmine and supplejack vines slid off his mighty antlers, running as if life were in his stride, and death only a heartbeat behind, there suddenly burst upon my sight the great Blackhorn Buck, a creature so remarkable, so romantic that I think it well worth while to attempt to record his history. To me, certainly, he has always been far more fascinating than many human beings. He is not simply a wild deer; he is a distinct personality; a veteran of many dramatic escapes; a wily old champion whose whole life has been one long series of master stratagems.

Full into sight he now burst, running wildly, yet for all his speed with a continence of flight,—planned and purposeful. With a woodland fugitive, the great end is not alone to escape, but in doing so to avoid possible enemies in front as well as certain foes behind. His mighty yet graceful bulk, the ponderous grace of his movements, the heavy yet patrician elegance that such a primeval creature always possesses,—all these impressed me. But what surprised me most was the size of his horns,—and perhaps their strange color. A twelve-pointer he was, with a huge rack of burly antlers, symmetrical and wide. I knew their spread must be at least two feet. Most whitetail stags have chestnut—or ivory colored—antlers; sometimes gray, sometimes almost white. But these horns were as ebony as those of a waterbuck or an ibex. Antlers of that sort make a deer easily identified. Moreover, there was something superbly regal about his whole make-up; a gallant superiority that marked him as king of the wildwoods from which he was now being mercilessly driven.

On his grand rush for the river, he passed me so closely that I saw what I hoped I would not see: he was sorely wounded. The white froth at his mouth was tinged pink; and blood streamed down his foreshoulder. Had the friendly river not been so near, the pack might have overhauled him.

With the enigmatic undulant gait characteristic of a deer he sped toward the Santee. To me he seemed too badly wounded to swim that wide expanse of water. But he never hesitated. He knew what lay beyond for him: mazy reedlands in which hounds are easily baffled; lush beds of wampee; green wildernesses of young canes; sunny ridges in the delta woods to which no enemy would ever penetrate. Life lay beyond the river,—rest and recuperation; other years in which to roam his beloved pinelands, and in the deep of night to mate with the timid shadowy does. After all, the decision he had to make was simple: he was merely choosing between life and death. And that decision he made while yet in full flight. I saw him fleet under the weeping boughs of a mighty live-oak; thence across a sandy space immediately before the river-bluff. As nicely as a champion hurdler times his stride the great stag reached the ten-foot bluff ready for a take-off. There was no pause; there was no time to pause. High into the air and thence down into the river he launched himself, landing a full twenty feet

from the shore. He struck with great force, but apparently he was uninjured; for immediately he began to swim.

In swimming, a deer carries his head very high, and nothing else of him is visible. Running down to the bank, I was afforded a perfect view of this magnificent old wild creature's gallant escape. Though he had seemed to be wounded severely, he now gave no evidence of disability. Though the tide was flowing out strongly, and though he had more than three hundred yards to go, he never wavered, and he swam almost straight across. With the river for background, his great crown of jetty antlers seemed larger and wider than ever. To wear such masterly horns, a deer must be in his physical prime, which comes when he is from seven to ten years old. As he declines from his zenith of reproductive power, of which his antlers are the emblem, his horns become steadily smaller and more irregular.

When he was halfway across the river,—safe from hunters, I knew, and almost safe from hounds which might attempt to follow him into the mazy wilderness of the delta country, I heard the following pack suddenly clamor loudly behind me. Seizing a heavy stick, I turned to face the oncoming dogs, assuming a sternness of demeanor which was intended to indicate that the fugitive buck was my private property. Now, even when a hound is wild on a hot and bloody trail, he does not like to encounter a strange man, especially if the stranger brandishes a club and shouts dire imprecations. When the hounds saw me, and the mood I was apparently in, they utterly lost their enthusiasm for the chase; in fact they were comically human in pretending that they weren't after a deer at all, but had merely happened along. In embarrassed silence they vanished into the woods whence they had come. Looking again across the river, I saw the Blackhorn Buck climbing the farther bank in safety. Soon he was lost to sight in the lush greenery of the canes and marsh that densely fringe that sanctuary.

It would seem that when a deer has been so desperately chased out of a certain haunt, and wounded besides, that he would stay away from it. But it is not so. Every wild deer has a definite range, usually quite limited in area; and to this he clings with nostalgic devotion. If undisturbed and if food be sufficient, a deer will range over the same few acres year after year; nor does he go from place to place in haphazard fashion. He follows definite routes; and his ancestors have followed those same trails (sometimes defined and sometimes not) as long as we have records of deer-hunting in this country. For example, I know many deer-crossings that were named before the Revolution; and these are favorite runs for deer today. Often, the woods have changed utterly; and the very landmarks in the woods that gave these crossings their picturesque names may have vanished. But deer still travel these same courses. There is no sign of an oak at the Crippled Oak Stand; the giant yellow pines have gone from the Seven Sisters Stand; but the wild deer still infallibly run to the Crippled Oak and to the Seven Sisters. If driven from his favorite range, a deer will always return. He may be deliberate about it, but he will come back. For he loves no place on earth as

he does his native heath. For his birthplace he has a changeless affection. He prefers to live and to die at home.

When I saw the Blackhorn Buck swim the Santee, I knew that he would return—if he did not succumb to his wounds. That he might recuperate I was reasonably certain; for it is remarkable of what injuries a deer can heal himself. So perfect is wild health and vigor that what would prove instantly fatal to a man is often survived by a creature of nature. I have seen a good many three-legged deer in the woods; when a leg is broken—if not too high up in the hip—the injured member sloughs away, and the wound heals over. I might add that even so handicapped a deer can usually distance a good pack of hounds. In country where deer are hunted with buckshot, few of these animals do not carry in their bodies these leaden missiles. I have seen an old stag dressed that had nine old buckshot imbedded in him; and he was in prime condition.

On my return to the plantation I began to ask the negroes about the Blackhorn Buck. Why was it that they had not told me of the presence in our home woods of so remarkable a creature? To my surprise, they knew all about him, but they did not consider him a deer. He was a token; that is, so different and so superior was he that he was a supernatural presence. They were not inclined to talk much about him. Had not Steve's Bess died only a week after she had seen him calmly cropping peas in the field on the edge of the negro graveyard? And in the same month in which Paris Green had seen him, lightning had struck Paris' cabin. They hinted darkly that it would be as well if I took no especial interest in this phenomenal creature.

About a month later, sitting one morning on my front porch in the balmy winter sunshine of those kindly latitudes, I was startled to hear, from the kitchen behind the house, a mortal cry of fear and agony. As I knew that no one was in the yard save Ogeechee, a good negro who had long suffered from consumption, I was afraid that a fatal hemorrhage had overcome him. But as I started up, a great form rushed past the house, and, with desperate yet stately speed, tore down the sandy road toward the woods, jumped the tall gate, and was lost in the forest.

Hurrying to the back of the house, I found Ogeechee sitting in the sun on the kitchen steps, tears streaming down his face.

"Did the buck scare you?" I asked.

"I have done seen my Token," he answered solemnly; and all my attempts to make light of the matter were vain.

The stag had swum the river behind the house, had walked up the pathway, and must have been within four or five yards of Ogeechee before either was aware of the presence of the other. To the deer, Ogeechee was just another man; to the negro, the Blackhorn Buck was an apparition, sent to summon him to other worlds than ours. Two weeks after that, I read the funeral service over poor Ogeechee.

As was to be expected, the fame of the stag increased amazingly among the plantation negroes; and his uncanny

BLUE SPRUCE

Premier danseuse of all the timber race
The orchard rows with cropped and plaited hair,
On glimpsing you can only stare and stare—
Your needles throb such unassuming grace.
The corpulent shade trees pause at knitting lace
To skirt their hips, and soughingly declare
Unanimous assent about your prayer
That breathes from every Gothic line you trace.

And are these cones you bring as gift to man
The inexpressible rosary you tell?
Are they a pleading Holy Eucharist food
Bestowed through whispered ritual of Pan?
As I partake, this mortal citadel
Evolves as one with God's immortal mood.

—Lloyd Frank Merrell

AMERICAN FORESTS

ability to escape white hunters contributed to the superstition of his magic power. To me it seemed only an illustration of the truth that certain beasts are genuinely distinguished. There are distinct individuals in nature—creatures whose unconventional behavior is the proof of their high intelligence. Most of them are superb solitaires. Just as all men are created unequal, so many animals are; and now and then we encounter complete originals, so informal and arbitrary in their deep sagacity that the mere novelty of them is refreshing. And the Blackhorn Buck is a genius of this type. One of my plantation negroes, less sensitive to the occult than the rest, told me that he had three times, while working the turpentine woods in the dewy hour of daybreak, seen this wily champion "going to bed." He reported that on each occasion the deer had waded across a pond before lying down for the day. A deer is well aware that some of his enemies trail him, and he knows that water has the effect of laying the telltale scent. Yet only the wariest stag will habitually practice this safeguarding maneuver.

One morning I ran my car into a little blind road off the plantation highway, and stopped it there, intending to look at some timber. As I stepped into a low copse-like growth of gallberry and sweet bay bushes, two bucks and two does sprang out of the sparse cover and dashed lithely away, their long effortless leaps made conspicuous by their tall snowy tails held stiffly erect. I watched them for a full minute until they disappeared into a thicket of young pines. Deciding to look at their beds, I walked into the fragrant greenery.

A slight noise made me look back. There was the Blackhorn Buck himself! Almost without a sound, and quite near me, he had eased himself from his couch, though waiting until I had passed him to do so. Amazed at his size and his tremendous rack, I was more amazed by his behavior, which had about it the savor of ancient wildwood magic. With a certain ponderous grace he dashed around my car and then sped away with that obstacle between us. No alert ruffed grouse ever put a shielding hemlock between himself and a hunter with more swiftness and accuracy than the Blackhorn Buck put my own car between us. He was running toward Montgomery Creek, that is affected by the tides in the river. Knowing that the tide would then be high, I wondered if he would swim across the deep estuary. I was soon to learn.

The next day I asked Peter Small, a negro woodcutter, if he had seen the great stag; for I knew that Peter had been working in the woods near the mouth of the creek.



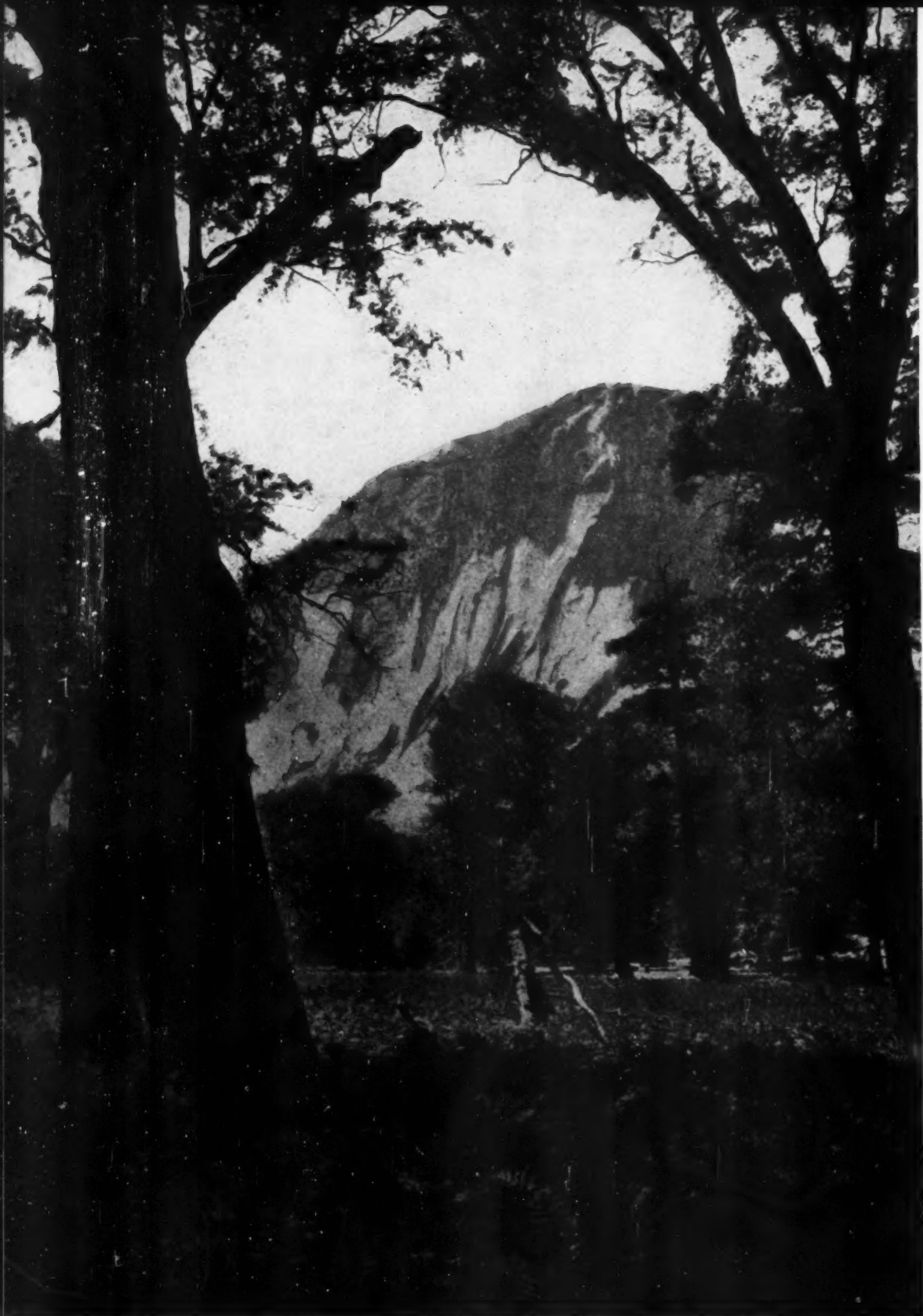
© Hobart V. Roberts

"Other years in which to roam his beloved pinelands and in the deep of night to mate with the timid, shadowy does. For the buck, life itself lay beyond the river."

"I done heard him comin'," he told me; "and when he done get to the water, he never stopped. He jumped right in from the old bluff, splashin' the water as high as them young cypresses. But he didn't swim across. No, sah; he's too smart for that. He swam right down the middle of the creek until he come to the river-marsh; then he came out on the *same side* he had left. A hound would go crazy trying to follow that Thing," Peter added darkly.

"Would you follow him?" I asked casually but designedly, to discover the degree of his superstition.

"Cap'n," he responded, (Continuing on page 587)



Photograph by J. N. LeConte

HETCH HETCHY VALLEY, HIGH WALLED AND PRECIPICED IN GRANITE, WAS—NEXT TO YOSEMITE—THE MOST SENSATIONALLY BEAUTIFUL IN THE WORLD.

"The upper forested part of Hetch Hetchy is charmingly diversified with groves of the large and picturesque California live oak and the noble yellow pine, which here attains a height of more than two hundred feet, growing well apart in small groves or singly, allowing each tree to be seen in all its grandeur and beauty. Beneath them spreads a sumptuous fern carpet."—John Muir.

THE UNFORGOTTEN STORY OF HETCH HETCHY

By ROBERT STERLING YARD

National Parks Association

THE precedents advanced in support of Senator Carey's bill which puts a reclamation reservoir and two irrigation reservoirs into the new Grand Teton National Park in Wyoming are the Hetch Hetchy Reservoir in Yosemite National Park and the Sherburne Lakes Reclamation Reservoir on the edge of Glacier National Park. These, say advocates of the Carey bill, prove that commercialized water is a recognized use of National Parks, forgetting that the authority for these reservoirs antedated the National Park Service, which, at once upon creation in 1916, declared against putting commercial waters into National Parks, and has since made Congressional precedents in Congress against it.

In fact, the Addison Smith bills, the Walsh bills, and the Fall bill, which the National Park Service opposed and the people of the country defeated in Congress during seven

strenuous years, had the introduction of commercial water into National Parks for their sole objective.

Nevertheless, since Hetch Hetchy has been appealed to, let us have the story of it. None of the former opponents of National Park standards used it as a precedent because, I have always supposed, its kick-back would be so powerful. Though its story has not been told to this generation of National Park builders, the first of the great raids against National Park ideals needs recording for historical sequence. We have studied it here from the records of Government, Congress and California, publications of the times and books. Besides, it was completed only the other day.

The story of Hetch Hetchy begins with a request of the Secretary of the Interior in 1899 that Congress should straighten out conflicting laws concerning rights of way through public lands. Yosemite National Park was eleven



The O'Shaughnessy Dam which, finished in 1923, turned Hetch Hetchy the beautiful into a commonplace reservoir serving waterpower and irrigation interests. A bond issue, offered in San Francisco last summer, will enable it to be raised to the total legal height of 500 feet, making possible the service of San Francisco with city water. The total project, estimated to cost \$45,000,000 when inaugurated in 1902, will have cost more than \$100,000,000 when completed.

years old, in February, 1901, when Congress responded with an act empowering the Secretary of the Interior "to permit use of rights of way through the public lands, forests and other reservations of the United States, and the Yosemite, Sequoia and General Grant National Parks, California, for electrical plants, poles and lines for the generation and distribution of electrical power"; also naming other purposes, including domestic use. It was introduced by Representative Marion de Vries of Stockton, California, across the bay from San Francisco, on May 29, 1900, referred to the Public Lands Committee of the House, and reported back the very next day. Up for passage six days later, it was questioned by Representatives Sereno E. Payne of New York and John F. Lacey of Iowa, watchdogs of conservation, and an immediate motion to reconsider was defeated. In the Senate, where it was sent at once, it did not come up till February 7, 1901. The next day, under control of Senator George C. Perkins, also of Stockton, California, it was passed and sent to the President, who signed it the next week.

Water power had at this time begun deeply to concern fast-growing California. With coal so far away and its transportation costly, business had suddenly realized that in "white coal" lay her sole chance of future great prosperity. Companies were exploring the Sierra for sources of power to win Los Angeles' lusty challenge for Pacific Coast precedence, and San Francisco's proud defense. California water power stock was not only urged for sale at home but offered in the exchanges of the world.

The local move for Hetch Hetchy, however, began under a different motive. Like every growing city, San Francisco was nervous about her city water supply and the price she was obliged to pay for it. For years, this was the issue of local politics most prolific in headlines. Every new administration took it up afresh. Even distant Lake Tahoe was among the many sources considered. A map shows that, as early as 1882, Hetch Hetchy had been proposed as a reservoir site. In 1886, a man named Harris tried to sell the city rights there which he claimed to have acquired in prospecting. In 1889, the United States Geological Survey described in its eleventh annual report the availability for water storage of Lake Eleanor and Hetch Hetchy Valley, and, in its twelfth annual report, called Hetch Hetchy Reservoir Site Number 33. In 1889, J. H. Quinter, employed by J. P. Lippencott to measure stream flow for the Geological Survey, reported it an excellent reservoir site. In 1900, city engineers worked out the cost of damming, and several electrical companies made, but did not publicly report, examinations of their own.

It was James D. Phelan, a San Franciscan of wealth and influence, then Mayor and later United States Senator, who started the project. This was in 1901, year of the establish-

ment of power rights in the California National Parks. At his own expense, he hired J. P. Lippencott secretly to make a survey, draw preliminary plans for the damming of Lake Eleanor and Hetch Hetchy Valley, and file claims in his, Phelan's, name. Later on, when Secretary of the Interior Ethan Allen Hitchcock called this secrecy surreptitious, criticizing his not asking permission of the Government to survey a National Park, reply was made that he feared popular opposition and perhaps professional rivalry.

Phelan's application must have deeply interested the Theodore Roosevelt administration, judging from the official correspondence we find in the records. Hitchcock's opposition to any other than park use of National Parks

and his convictions concerning the protection due them stand out. It was the ambiguous phrasing of the creative act, copied from the Yellowstone act, that tripped him. To the General Land Office on February 15, 1901, he quoted the law as directing preservation of "natural curiosities and wonders" in their "natural condition." It was inconceivable, he contended, that this permitted authority "for the subversion of natural features which are essential to the very purpose for which the Park was established."

Phelan and his friends, to officials in Washington, claimed that rocks and forests were neither curiosities nor wonders, and that the act of 1901 granting all kinds of rights of way in Yosemite superseded the creative act of 1890. In April, 1902, Phelan applied for rights of way and reservoir sites in Lake Eleanor and the Hetch Hetchy Valley.

Secretary Hitchcock denied the application on January 20, 1903, in a letter to the Land Office in Seattle as follows: "I have to state that, upon careful consideration of this case, the conclusion has been reached that it would not be expedient to accord favorable consideration to the application of Mr. Phelan for the privilege in question in Yosemite National Park, and it is accordingly denied."

The move was scarcely known even in California, but already there was opposition from a few lovers of extraordinary natural beauty. Three different water power companies, one entitled Yosemite Water Power Company, meantime filed on Lake Eleanor and the Hetch Hetchy Valley.

The setback was a cause of jubilation to the defenders of natural beauty, but a hard blow to the promoters. There followed a period of newspaper lamentation and protest, at the close of which the new city administration passed a resolution abandoning the Tuolumne, and began hopefully to look elsewhere for city water. The incident was officially closed.

Not so Mr. Phelan, now out of office. He and a small group of associates thereafter kept the project alive, appearing at many water meetings with reminders, arguments and plans, and corresponding occasionally with Washington.



JAMES D. PHELAN

As the promoter of the Hetch Hetchy Reservoir, he surveyed the Valley in 1901 secretly, at his own expense, and in 1902, as Mayor of San Francisco, applied for Reservoir rights. Out of office, he led the fight at home and in Washington to its success in 1913. As United States Senator, he facilitated the enterprise during his one term beginning in 1915.

The President, appealed to by Franklin K. Lane, City Attorney of San Francisco and one of the ardent promoters of the enterprise, for a ruling on the effect of the law of 1901 on the organic act of 1890, passed the question on to Attorney General Purdy, who held that the law of 1901 was "intended to invest the Secretary of the Interior with discretionary power to grant or refuse such requests." This gave Phelan and his friends a ray of hope. They settled down to await Secretary Hitchcock's successor.

On March 4, 1907, James R. Garfield, son of President James A. Garfield, succeeded Hitchcock, and the project was immediately renewed in Washington. While on a tour of the west, Secretary Garfield accepted an invitation to a meeting in San Francisco for July 27, 1907. A committee of ten led by Mr. Phelan met him before Mayor Taylor, presiding. Briefs followed him back to Washington, where, on May 8, 1908, he granted the city the rights asked with the stipulation that Lake Eleanor should be utilized first, and Hetch Hetchy reserved for later development if necessary.

Little news had reached the press during these years of waiting, but public slumber was uneasy, and the jubilation of San Francisco over the Garfield decision stirred the country to action. "How the storm was manufactured is not known," wrote Ray W. Taylor, an apologist for the Hetch Hetchy project. "To some it may be a mystery, to others it may not be a mystery," stated Mayor Taylor, intimating no one now knows what, precisely,—perhaps that a rival instigated the

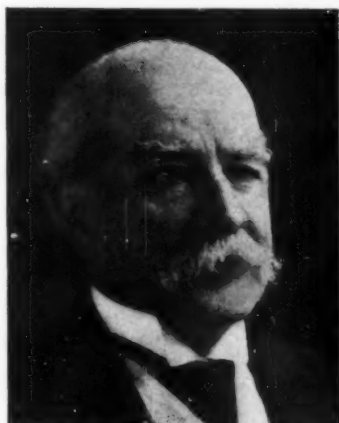
protest in remote hope of still grabbing off the plum.

To meet legal conditions, a joint resolution was entered in Congress to effect an exchange of the lake and valley for city lands elsewhere. This started before the Public Lands Committee of the House, at hearings in December, 1908, and January and February, 1909, an unorganized public protest of astonishing size, the first so far as I know ever in defense of natural beauty.

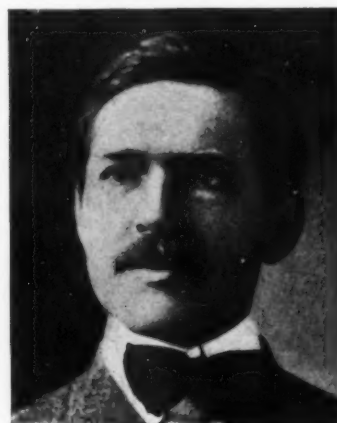
The printed minutes of the House Committee hearings of January 20 contain more than a hundred and fifty pages of letters of protest. The Sierra Club of San Francisco led off, its letter signed by John Muir, President, William E. Colby, many Directors and officials of such other organizations of influence as could be got together in emergency. Individual letters came from John Muir, William Frederic Bade, Robert Underwood Johnson, the American Civic Association, The American Forestry Association, and enough others, Mr. Taylor says in his book, "to fill a hundred pages of the Congressional Record." Pages large and wide, these. Wired to for help, Mr. Phelan and a group took an immediate

train to Washington from San Francisco.

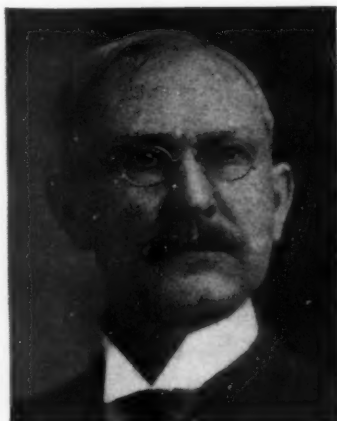
Before the Senate hearings in February appeared in person Robert Underwood Johnson, associate editor of the *Century Magazine*, Henry E. Gregory, representing the American Scenic and Historic Society, Edmund A. Whitman representing the Appalachian Club, Alden Sampson, Harriet Monroe, Herbert Parsons, J. Horace McFarland and many others, and (Continuing on page 595)



ETHAN ALLEN HITCHCOCK



JAMES R. GARFIELD



RICHARD A. BALLINGER



WALTER L. FISHER



FRANKLIN K. LANE

Five Secretaries of the Interior figured in the long struggle for Hetch Hetchy Valley (photographs taken when each was active). Hitchcock, refusing to grant San Francisco's application for the Reservoir, held Yosemite National Park safe from 1902 to 1907, when Garfield, succeeding him, granted the Reservoir. Ballinger opposed Garfield's grant in 1909, and Fisher, following him, refused all action. The fight was then taken to Congress, and Lane (from San Francisco) aided passage of the Act in 1913.



STAR LED



By

HAZEL OVITZ METZNER

Up through the pines, at twilight on Christmas Eve, follow the trail to the open crown of the highest hill! In the brooding hush of the dying day, webbed shoes make a soft slurring sound in the freshly fallen snow. Immaculate, an altar cloth of white is spread o'er the earth to celebrate the high mass of the Christ Child's birth. Motionless stand the pines in a holy calm, reaching their fragrant, living green arms toward heaven in silent adoration.

The peace of a gentle sunset has left the earth bathed in soft, grey light. Overhead in the cloudless, blue-green of the evening sky, a young moon gains strength in its cool whiteness as the twilight deepens into dusk. The evening star, a flickering point of light, gains, too, in power, until its scintillating brightness hangs, a lambent flame, halfway between the moon and the western horizon.

Over the paleness of the sunset sky slowly creeps a delicate, apricot tint that grows and deepens through shades of saffron shot with tangerine, until the western heaven, far into the north, glows in an ecstasy of burnished gold.

The clock in the village steeple breaks the silence of the hallowed dusk. Its distant tones, filling the clear, cold air with waves of sound, are soft and beautiful, as all this winter loveliness is beautiful.

Calmness, strength, peace and purity permeate the air. The steadfastness, sincerity and everlastingness of all eternal things thrills and holds one fast. Oh, the power and the glory of this silent hilltop in the pure twilight! Endurance,—the immortality of all that is fine and true and lovely pervades the senses,—even as the Heavenly Voices were heard on Bethlehem's plains two thousand years ago.

The glowing evening star leads and I follow down through the darkening pines to the valley. Its beams point a trail of light to the door of home.

"Enter Calmness and Peace, Strength and Loveliness, possess this man-made abode as you possess the solitary forest. Let here be found inspiration for all that lifts the soul, as it is found in the high, lonely places."

The Heavenly Voices, and the Star have led me home!



EDITORIAL

The Lesson of Hetch Hetchy

CONSERVATIONISTS of twenty-five years ago have not forgotten the story of Hetch Hetchy Valley in Yosemite National Park. Those of more recent years may learn the story from Robert Sterling Yard's article on page 566 of this issue of *AMERICAN FORESTS*. Less than three decades ago Hetch Hetchy was as beautiful and as remarkable a natural wonder as the somewhat smaller Yosemite Valley. Today it is a huge reservoir supplying power and water to the city of San Francisco and irrigation to three great farming centers. But it is still a feature of the Yosemite National Park.

Secretary Ickes, addressing a large gathering in San Francisco last month on an occasion marking the delivery to the city of water from the Hetch Hetchy Reservoir, lauded the enterprise as a demonstration of the ability of the people to put a natural resource to its highest and most beneficial use. "This," he said, "is real conservation." During the course of his speech he vigorously condemned "rugged individualism" for its past destruction of nature. "I become enraged as I go through this broad land," he declared, "and see the havoc that has been wrought by the wanton hand of man."

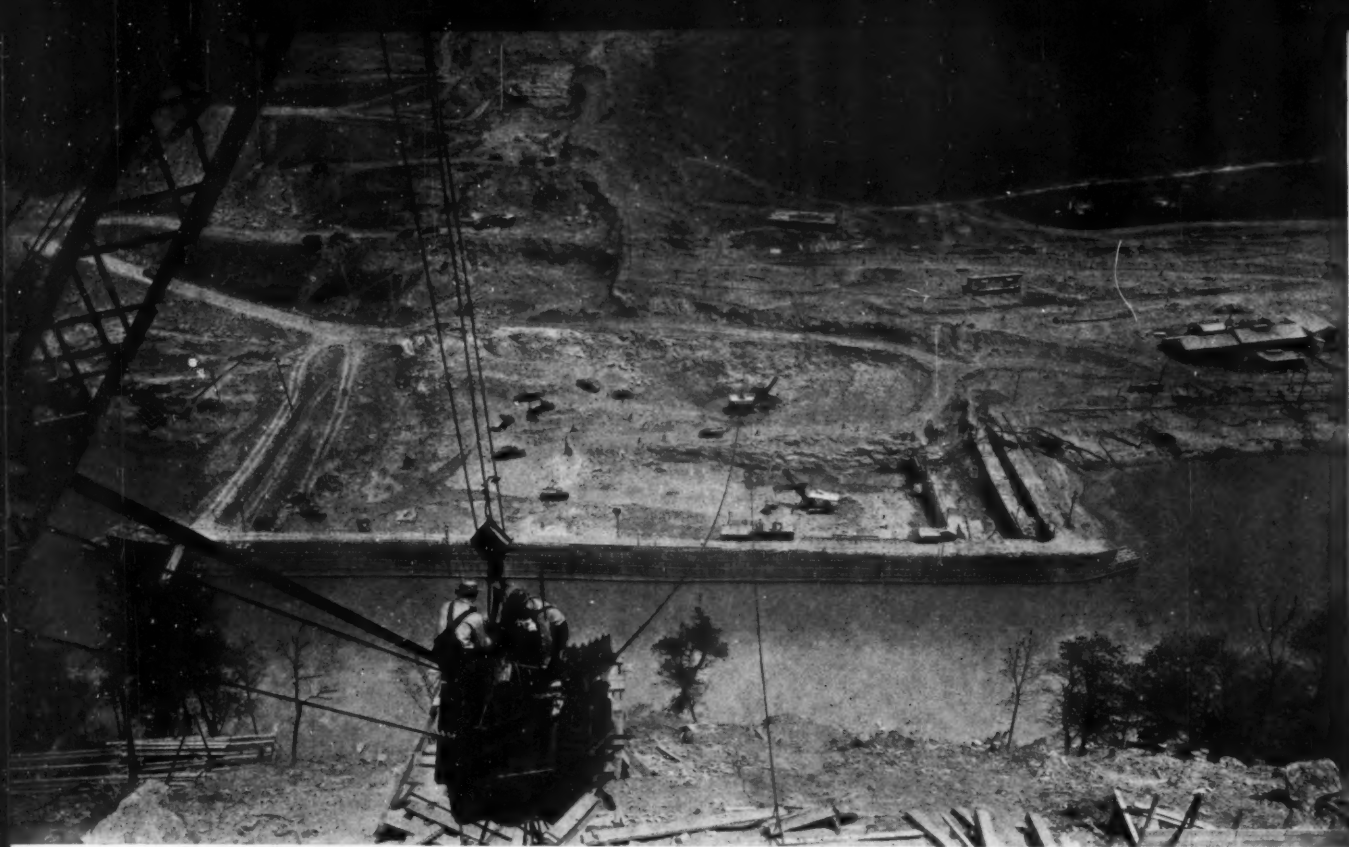
When one bears in mind that the Hetch Hetchy enterprise is in a National Park, that it is the product of rugged individualism, and that it despoils natural beauty so rare and unusual as to have been selected by the nation for unmodified preservation, it is difficult to follow the Secretary's mind. Certainly he would not hold up Hetch Hetchy as a demonstration of National Park conservation. No doubt Hetch Hetchy Valley despoiled and converted into a reservoir will serve a high need of the people but at the sacrifice of the integrity of a National Park system created to preserve the very things destroyed. We believe that no greater havoc has been done anywhere at any time than that wrought upon National Park ideals and standards by the O'Shaughnessy Dam in Hetch Hetchy Valley. Such examples of conservation have no place in the National Parks.

Hetch Hetchy, it may be said, is now water over the dam. Why retell the story? Because its telling throws into sharp relief and may better help decide an issue which next month will again confront Congress and the public in dealing with National Park ideals and purposes of twenty years standing. The issue emerges from proposed legislation designed to enlarge the Teton National Park in Wyoming to include the Jackson Lake Reservoir, which impounds water to meet the irrigation needs of farmers in southern Idaho. The reservoir was developed and is under the jurisdiction of the Federal Reclamation Service. Its inclusion as a National Park feature raises the same issue as did Hetch Hetchy when National Park ideals were in the formative stage.

What happened in Hetch Hetchy served in the course of time to crystallize these ideals into a national policy to protect for all time the National Parks against exploitation and inclusion of exploited nature. The Act of 1916 established the National Park Service and directed it to regulate the use of the Parks so as "to conform to the fundamental purpose of said parks * * * which is to conserve the scenery and the natural and historic objects and the wildlife therein in such manner and by such means as will leave them unimpaired for the enjoyment of future generations."

The Secretaries of the Interior since Franklin K. Lane have scrupulously defended that purpose. Upon the spirit of the Act, Stephen T. Mather built the National Park ideals of later years and the best American thought formulated standards to strengthen and guard the parks against the inclusion of man-made works. Shall these standards prevail inviolate, or shall they be interlined with exceptions that in the course of years may become the rule and eventually weaken and destroy the very foundation upon which the parks rest? That, it seems to us, is the question which those who laud Hetch Hetchy and who would add to the parks such developments as Jackson Lake Reservoir are today called upon to answer.





Focusing attention on the gigantic undertaking involving long-time planning in conservation and regional development in the Tennessee Valley, those attending the 59th Annual Meeting of The American Forestry Association viewed each major project. They saw (above) the great structural shell that will be Norris Dam, and they were given an intimate understanding of how erosion on mountain farms such as that shown above, is being brought under control. Many of the people, living on worn-down farms, have a total yearly income of less than two hundred dollars a year.

New Opportunities Challenge Forestry

59th Annual Meeting of The American Forestry Association Appraises the Tennessee Valley Project and Brings into Relief Larger Problems of National Conservation

STEEPED in the drama of reconstruction, vibrant with new and far-reaching needs of American life, the 59th Annual Meeting of The American Forestry Association heralded an unprecedented era in forest conservation.

In a region where once-forested mountains and rolling lowlands merge to form the great Tennessee Valley, more than five hundred foresters, conservationists, industrialists, land owners, and awakened citizens acclaimed the new opportunities for public service with a spontaneity of spirit that promises well for attainment. From October 17 to 20, in a series of conferences at Knoxville, Tennessee; at a forest camp of the Civilian Conservation Corps; before the mammoth structural shell that will be Norris Dam, and in the autumnal glory of the Great Smoky Mountains National Park, they appraised the Valley drama that is now being enacted in land reconstruction and social planning and through addresses and discussion brought into sharp relief the larger national problems and trends of New Deal conservation.

And at the conclusion of their field trips, observations and conferences they recorded their reactions in a series of vigorous and positive pronouncements which included the assertions: (1) That forestry must play its full and proper part in advancing and stabilizing the economic and social development of the Tennessee Valley; (2) That the forestry work of the Federal Government must remain centralized in the Department of Agriculture in association with agriculture and other activities in soil conservation and crop production; (3) That the work of the Soil Erosion Service should be made available to all farm lands and farm people by a consolidation of this Service with the work of the Department of Agriculture; (4) That the eastern mountains should be carefully zoned with a view to retaining for this and coming generations ample areas of wilderness and unspoiled natural areas; (5) That emergency funds be made available immediately by the President to save the American elm from destruction by the Dutch elm disease; (6) That the Civilian Conservation Corps should be put upon a permanent basis free from politics and under the ablest supervision that can be found; (7) That the Federal Government in its acquisition of lands for National Forests include in its purchases a larger proportion of merchantable timber; (8) That the few remnants of virgin forests now remaining in the United States should be saved without

delay because of their great educational, scientific, recreational and inspirational value to all the people; (9) That forest research should be adequately expanded in order to assure the success of the present significant increase in forestry activities.

Focusing attention on the gigantic undertaking involving long-time planning in conservation and regional development in the Tennessee Valley, the conferees viewed each major project after Dr. Arthur E. Morgan, Chairman of the Tennessee Valley Authority, told them that the new economic and social order of America must be the result of design and planning, and that President Roosevelt had set up the T.V.A. partly as a laboratory in government "where light may be thrown upon governmental, economic and business needs for the whole country."

They heard Henry Solon Graves, Dean of the Yale Forest School, and President of The American Forestry Association, outline the place forestry must play in this design and planning, and envision enlarged economic and social opportunities "where we may find in our home communities an outlet for initiative and energy, without being obliged, as is now often the case, to go to other regions for employment and for a life that will satisfy."

They applauded F. A. Silcox, Chief of the United States Forest Service, when he said that the fundamental purpose of public conservation policies was that of making forest lands affirmatively contribute to the permanent support of their fair share of the nation's population. This, he said, is in some ways "the biggest and the most glorious of all opportunities which have yet confronted us."

Robert Fechner, Director of Emergency Conservation Work, brought the words of the President that the work of the Civilian Conservation Corps "must go on." Jay N. Darling, Chief of the United States Biological Survey, and Arno B. Cammerer Director of the National Park Service, told of the work and opportunities of their respective departments, while Robert Marshall, Chief Forester of the United States Indian Service, made an inspired plea for the preservation of the nation's remaining wilderness areas. They heard Major General George Van Horn Moseley, Commanding General, Fourth Corps Area, pay a stirring tribute to the Civilian Conservation Corps, and those charged with its work and administration. They heard Edward C. M. Richards, Chief Forester, Division of Forestry, and Earle S. Draper, Director, Division of Land



HENRY SOLON GRAVES
President of The American Forestry Association

Planning and Housing, of the Tennessee Valley Authority. And they heard others—men who are directing the destiny of the Tennessee Valley.

Speaking at a banquet given by the Smoky Mountains Hiking Club, and with its president, Guy Frizzell, serving as toastmaster, Mr. Graves opened the meeting before a capacity crowd of six hundred men and women.

Forestry, he said, is more than the technical problem of producing and protecting forests. It must perpetuate and make available an ample supply of materials for building construction and for the fabrication of a large number of commodities used in every day life; it must build up and sustain local forest industries, provide stable employment, and utilize for productive use the lands that are unsuited for agriculture. More than that, it must conserve and develop recreational resources.

"The central feature of the Tennessee Valley project," he told the gathering, "is the control and utilization of the water. The project is unique in that it brings into correlation the development of water and the development of land resources, to achieve a maximum service from both in the social-economic development of a region. In other parts of the country there are very acute problems of water control and use, and a demand for public works for flood control, for regulation of streams for domestic and industrial use, for power, for irrigation, for recreation, for conservation of water fowl, and for improvement of navigation.

"The Government during the past year has been conducting studies in the various drainage areas of the country, to lay the basis for a comprehensive plan for public

improvements on the streams. Such a plan would be very inadequate without consideration of the manner and use of the land on the drainage areas of the streams. In public works on streams we can no longer ignore the extensive erosion that results in ever increasing quantities of silt discharged into the streams. We must give heed to the beneficial effect of the forests in retarding the run-off from the slopes and in lessening the severity of torrents, freshets, and local floods."

For some years national planning has been under way in various phases of land use, agriculture, erosion control, forestry, recreation and wild life conservation, Mr. Graves said, pointing out that at the present time the Government is bringing the planning in these fields and in water use and control into more effective coordination, and is initiating action on a more comprehensive scale.

"Thus the Government's program in forestry will dove-tail with the program of river improvements. The Forest Service will join hands with the agencies dealing with soil erosion on agricultural lands in meeting a common problem. The Corps of Engineers may be charged with some great river improvements that will benefit a large rural population. It will look to the agricultural and forestry agencies for cooperation in lessening soil erosion on tilled land and in other measures that will insure a permanent and prosperous agriculture in the region."

Dr. Arthur E. Morgan, in his address at the banquet, envisioned a new economic and social order as the result of design and planning, and interpreted the T. V. A. as a laboratory in government where "we can try out methods to find which will work best and be most successful.

"There is the problem of power development and distri-



DR. ARTHUR E. MORGAN
Chairman, Tennessee Valley
Authority



A part of the five hundred foresters, conservationists, industrialists and awakened citizens who acclaimed new and

bution, of mastering the entire Tennessee River with its forty thousand square miles of drainage and its great power resources," he said. "There is the problem of working out an economic order for the people of the mountain regions where agriculture is now the chief occupation, and where there are three times as many people as are needed in agriculture. There is the problem of working out a combination of agriculture and industry. There is the great problem of the destruction of soil by erosion, a process that has gone on until possibly twenty million acres in uplands have been destroyed and millions more are being destroyed. Then there is the matter of forestry. You know how these hills have been stripped of their best forests without a continuing design for reforestation. You know how the forests have been treated as something to be destroyed in order to get a quick profit. In all these elements we must have design and planning."

In the mountain regions east and south of the Tennessee Valley, he said, there were six and a half million people without a well developed economy. Many of these people, he pointed out, have no good way to make a living—that on many of the mountain farms the total yearly income is less than two hundred dollars.

"Social and economic planning might develop many little industrial centers all through this region," he declared, "so that the farm population may earn a cash income from industry, using the farm for sustenance. The greater part of the products of such industry might be consumed locally, raising the economic level of the region, relieving the government of a relief burden, without competing seriously with industry elsewhere."

It is the job of the Tennessee Valley Authority to main-

tain a balance in the various kinds of undertakings, he said. "First we must find industries and methods of self-support, and set them going so the people will not need government help; second, we must carry through developments that will return their cost in a reasonable period of time; and third, whatever part of the population is not needed, and so far as funds are available, we must put that margin to work for the long-time welfare of the country, in forestry and soil erosion control, and the development of agriculture and industry and education."

As the featured speaker on the second day of the meeting, with James G. K. McClure, President of the North Carolina Forestry Association, serving as chairman, F. A. Silcox issued a "bold, compelling challenge" in making the forest lands of the nation affirmatively contribute to the "permanent support of their fair share of the nation's population."

To meet this challenge, he said, one-third of the nation's land area must be kept productive, with forest resources managed as crops, on sustained-yield basis, rather than as mines.

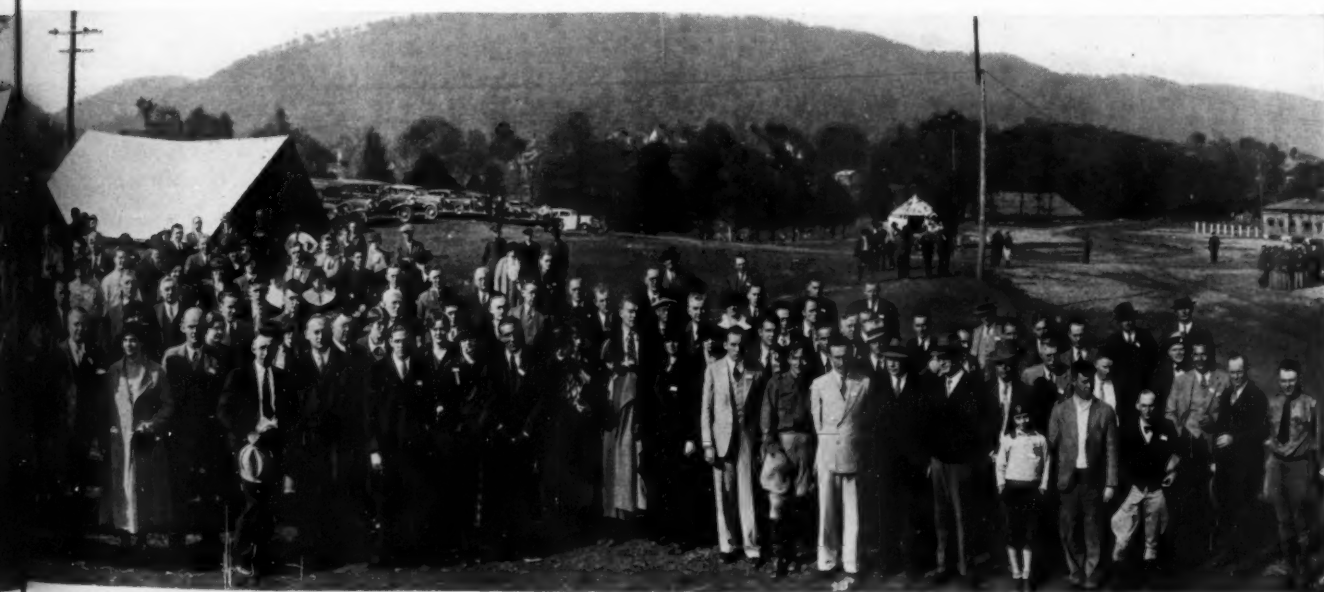
"This is a long time job," he said. "It is one which calls for rebuilding much of our forest empire—an empire which constitutes almost one-third the area of the continental United States. —But this is possible, and once accomplished, forests can then support many more people than they do now; forest capital will be secure rather than

insecure; forest industries stable instead of unstable; permanence rather than enforced migrations may characterize lives of families; whole communities can then depend upon jobs made possible by a continuous supply of forest products.

"In this rebuilding and improving lies our opportunity.



MR. F. A. SILCOX
Chief, United States Forest
Service



far-reaching opportunities in forest conservation at the 59th Annual Meeting of The American Forestry Association.

By means of it, forest properties will become added sources for labor and supplies; the doing of it will aid in the immediate national effort for relief; social and economic reconstruction and rehabilitation will be forwarded. From this huge forest work-reservoir, old jobs may be replaced by new. But the old concept—exploitation of family and community as a means to produce and utilize products of the land—must definitely go into the discard. The new ideal—utilization of forest land and its resources for the permanent support of families and communities—must take its place."

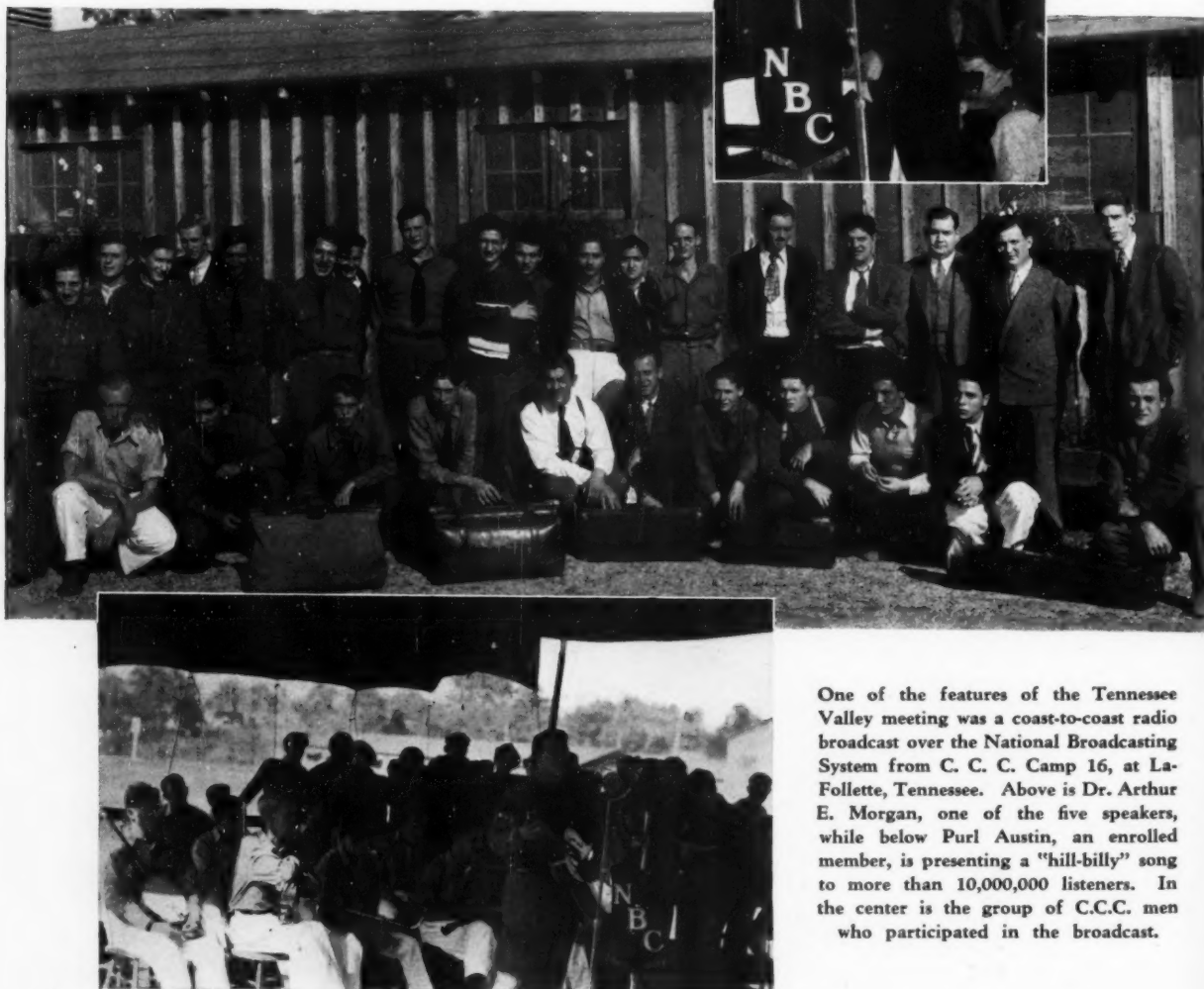
During normal times, the Chief Forester said, forest work gave full time employment to 1,500,000 people. Sale and distribution of forest products helped keep another 500,000 or more in jobs. More than 2,500,000 farmers secured sorely needed supplemental cash incomes, plus wood and building material, from forest land. The predepression capital value of the forests and forest industries, he said, has been estimated at \$10,000,000,000, and gross annual income from forest-industry products close to \$2,000,000,000.

"And although they include only some 162,000,000 of our 614,000,-

Living within or adjacent to the National Forests, said Mr. Silcox, are more than 750,000 people who are dependent, in whole or in part, upon these forests or their resources. And surveys, he explained, indicate that this number will exceed 900,-

000 within the next few years.

"This dependency is in part upon the flexible but permanently sound management of timber, range, water, game and recreational resources of



One of the features of the Tennessee Valley meeting was a coast-to-coast radio broadcast over the National Broadcasting System from C. C. C. Camp 16, at La-Follette, Tennessee. Above is Dr. Arthur E. Morgan, one of the five speakers, while below Purl Austin, an enrolled member, is presenting a "hill-billy" song to more than 10,000,000 listeners. In the center is the group of C.C.C. men who participated in the broadcast.

000 acres of forest land," he declared, "the federally-owned National Forests furnished more than 26,000,000 man-days of work during the twelve-month period of 1933-34. The immediate purpose of this work was, it is true, to relieve distress. But the projects were so planned and executed that they have greatly increased the potentialities of the properties to contribute to the support of the nation's population."

these relatively undeveloped public properties. In part it is on industries which are dependent, in turn, on National Forest raw materials. And partly it is on day labor on projects designed to protect, administer, improve and develop these national assets."

On the other hand, Mr. Silcox pointed out, the lumber industry has been financed and (Continuing on page 594)

THE YULE LOG IS COMING BACK

By R. H. RUTLEDGE

MANY a farmer's family and many another family will be without coal this winter because they are minus the proper medium of exchange. But these same families have the will, as well as the physical stamina to work, and if they live within fifty or one hundred miles of a National Forest, the exercising of these qualities is going to assure warm and cheerful homes all winter long.

Statistics show that the per capita consumption of wood has dropped steadily of late years, but it did not take

long for citizens with no money income to see the value of wood in times of stress. On every National Forest of the Intermountain Region — Utah, Nevada, Southern Idaho, Western Wyoming, and Northern Arizona — teams with wagons, trucks, trailers and even touring cars could be seen most any day during the summer and fall, loaded with all kinds of fuel wood, some in tree length, some worked up into stove wood sizes. It was not uncommon for 100 loads a day to come from one forest. Fortunately the so-called forest development roads that have been under construction the last few years, and the truck

trails built by the Civilian Conservation Corps, are now proving a Godsend to the public. A few years ago it was thought the dead wood on the National Forests would never be in much demand. But now there are forests with every stick of dry timber gone within reach of the road. Green aspen, maple, and other species are being gathered. On some forests 25,000 cords are hauled out during the season for home use every year. It is free for the getting.

Entire families go to the forest. The women cook and keep camp while the men gather and load the wood, sometimes

spending several days getting one or two cords. In many cases the farmers are going 100 miles or more, making the round trip more than 200 miles. In some instances communities organize the wood hauling to supply the distressed who can not gather their own fuel.

The United States has thought that the intensive utilization of forests, which is in vogue in European countries, would never be seen here. Evidently the continuation of hard times tends to intensify this type of use of the National

Forests and the more accessible these areas are made, the greater service they can render the nation in times like these.

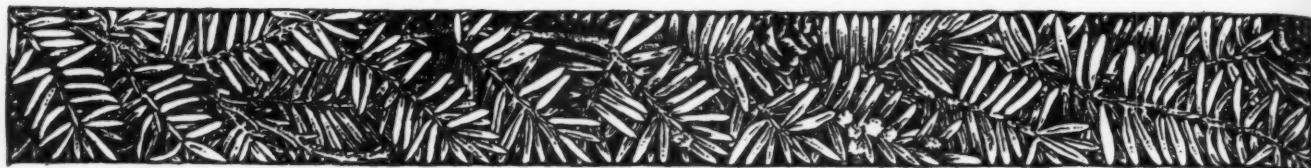
The forest has always been associated with the spirit of Christmas. From it comes the mistletoe, the Christmas tree, evergreen decorations, the wild game, the holly and the Yule log. The last, however, has been little more than a memory, with the advent of coal, gas and electricity. Now, however, these last mentioned fuels are on the verge of becoming luxuries instead of necessities to those families with no money income, and those resolute citizens are resorting to ancient and pio-



Wood haulers on America's western frontier reviving the spirit of the Yule Log. This fuelwood is cut from the National Forests, and is free for the taking to families in need.

neer modes of supplying their wants. The National Forests of the Intermountain Region supplied more than 170,000 cords of fuel wood to 25,000 families during 1933.

If there is truth in the saying that the more a man works for anything the more he appreciates it, the Christmas fires of these wood haulers will be more cheerful and radiate more of the true Christmas warmth than the fires from any other type of fuel. And also, once again the American spirit of conquest has found expression in a virile, resourceful people.



FIELD AND FOREST FOR BOYS AND GIRLS

"AFTER ALL!"

By BRISTOW ADAMS



AID tiny Gertrude, "Snoots for that little ol' tree!" as she turned up her nose at a small spruce that grew among some young maples. By that remark you may know that Gertrude's speech had more force than politeness. She turned up her nose at it; which she need not have done because Nature had already done it for her.

"Why, what's the matter with that little tree?" I asked. "And, while it is a 'little' tree, it is not an 'old' one. I doubt whether it is much older than you are."

"It is all stiff and spiny, and such a dark green! It looks almost black among all the bright leaves that wave and dance on the other trees."

Gertrude was very, very young. Her memory was short,—as short as Gertrude herself,—a very pocket edition of a sprite of a small child. On that bright October morning, she was charmed by the tints of the leaves on flaming maples, golden hickories, scarlet sumac, pinky-purplish dogwood, and red-bronze oaks.

"Let us wait and see what happens," I suggested. "Maybe you will like the little spruce much better after a while."

"Ain't never going to like it," retorted that saucy miss, with more gusto than grammar. And that was that!

But by mid-November I saw her gazing at the spruce, now standing out plainly and sturdily among the leafless stems of the trees which had so appealed to her in their bright Autumn dresses. I was tempted to ask her how she liked the little spruce tree now, when it became a spot of real color among the tans, and browns, and greys of the dying season's grasses, weeds, and twigs. But I let the impulse pass and said nothing. Yet I noted,

whenever we passed that way, that Gertrude's quick eyes were drawn more and more to the little tree.

Late in December; in fact, just before Christmas, the little spruce disappeared.

I did not need, then, to question Gertrude about her feelings toward that tree, because she came to me with her violet eyes ablaze. She was both grieved and angered. With her tiny chubby fists clenched, and eyes beginning to brim over, she blurted out:

"Somebody has taken my tree!"

"Your tree? I thought that was the tree you 'snooted'," I said. "You must have changed your mind about it."

"Well, I did—some," admitted my small daughter, who did not like to concede that she could change her mind.

"Perhaps someone has taken it for a Christmas tree," I suggested.

"They needn't have taken that one," she insisted. "Besides they shouldn't take trees for Christmas."

"Oh, wait a minute," I said, "You like to have a Christmas tree yourself, don't you? All covered with shiny balls and glistening tinsel; and the red-flannel Santa Claus; and the cotton-batting snow-man with his black top-hat and the stick under his arm; and the yellow birds with spun-glass tails!"

"Ye-es," she wavered, "but maybe we oughtn't to have them."

"Why not?" I parried. "We grow lilies for Easter time. We take great trusses of bloom from the lilacs for Memorial Day, don't we? We grow poinsettias for their rosettes of scar-

let. They are in all the florists' windows right now."

"But they aren't trees," persisted the tot, "and they keep on growing."

"But do they?" I began to feel that I was taking an unfair advantage from my years and experience, yet I kept on. "The poinsettias are little trees. They lose their



leaves in the house, and get to be bare sticks, and we throw them out; and that's the end of them."

She was not convinced; I could see that. But I went on: "If it is all right to grow lilies for Easter and poinsettias for Christmas, isn't it as much all right to grow trees also, for Christmas?" This was rather deep going for the small girl; she did not like to give up. Neither did I like to argue her down. It seemed too easy. Woman-like, however, she had the last word.

"Just the same," she came back, "they didn't have any business taking my tree."

Christmas Eve came. Her mother and I finally put Gertrude and her more placid older sister, Eleanor, to bed. From the dark closet in the pantry, mother brought the blown-glass and tinsel ornaments. From the cellar work-shop I brought a mackerel-tub that had cost many an hour of leaching out the salt-and-fish smell. It was now painted green, with Christmas symbols in red, and giant snow-crystals in white against the darker ground-color. I took it out to the garage and plumped into it the very identical spruce-tree which small Gertrude had claimed as her own. No wonder I had felt like a deceiving and overbearing grown-up!

But I could plead in self-defense that I had gone to much trouble and labor to dig a ball of frozen earth around the roots, transported all to the garage on a wheel-

barrow, wrapped the soil-and-root mass in burlap, and hidden the tree in a corner under an innocent-looking covering of gunny-sacks. It had not been easy. The whole thing was surprisingly heavy. A lot of the work had to be done at night, if I intended to keep it a secret from the alert and curious small girls. But now it was done, and the tree trimmed. The parcels wrapped in gay papers were stacked around the base, ready for the wonderment of the morning.

We half-expected,—even wanted,—Gertrude to recognize her tree. But truth compels me to say that she did not; which was not surprising, for it looked much larger in the living-room than it did in the open spaces of outdoors. Besides, it was disguised and be-decked with color and light.

We kept it moist, and not too long in the house. On the day before New Year we let Eleanor and Gertrude help take off the trimmings and stow them away against another time of Noel. Even when the spruce was bare it was not recognized.

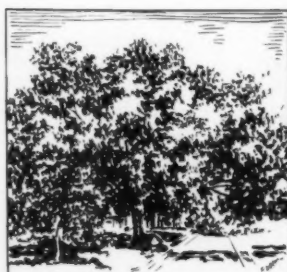
The wheelbarrow was called into service again; the tree was trundled up the slope to a corner of the back-lot where there is an outcrop of rocky ledges, and there the ball of roots was unwrapped and tamped into a hole I had previously dug. Only then did Gertrude recognize it as her tree!

Because we could see it from (Continuing on page 598)



FAMOUS TREES EVERY BOY AND GIRL SHOULD KNOW

No. 20 - - -THE "CONSTITUTIONAL ELM" AT CORYDON, INDIANA



UNTIL RECENT YEARS, INDIANA'S MOST FAMOUS TREE, THE CONSTITUTIONAL ELM, STOOD NEAR THE BANKS OF BIG INDIAN CREEK AT CORYDON. ONE OF THE MIGHTIEST TREES OF THE PRIMITIVE FOREST OF THE OHIO RIVER VALLEY, ITS SIZE AND BEAUTY MADE IT A LANDMARK TO THE INDIANS, AND THE FIRST WHITE MEN TO SETTLE IN THE HILLS ALONG THE OHIO



IN 1816 AN ACT OF CONGRESS ENABLED THE THIRTEEN COUNTIES OF INDIANA TERRITORY TO FORM A STATE GOVERNMENT. THUS IT WAS THAT FORTY-THREE REPRESENTATIVES LEFT THEIR RESPECTIVE HOMES, SOME TRAVELING THROUGH AN UNBROKEN WILDERNESS, TO COME TO CORYDON WHERE THE CONVENTION WAS TO BE HELD IN THE OLD STATE CAPITOL.



BEING ACCUSTOMED TO A ROUGH AND READY OUTDOOR LIFE THESE HARDY PIONEERS DID NOT ENJOY BEING CONFINED WITHIN THE TIGHT WALLS OF THE OLD CAPITOL BUILDING DURING THE HOT SUMMER DAYS, AND SO TO RID THEMSELVES OF THIS IRKSOME EXPERIENCE THEY MOVED TO THE INVITING SHADE OF THE OLD ELM.



THERE, SITTING ON NATURE'S COOL, GREEN CARPET AND NEAR A SPRING OF FINE, COLD WATER, THESE EARLY AMERICANS WORKED FOR TWENTY DAYS, JUNE 10 TO JUNE 29, 1816, DRAFTING INDIANA'S FIRST CONSTITUTION.

ALPINE FIR

Abies lasiocarpa (Hooker) Nuttall



Photograph by Lloyd Koenig

ALPINE fir, whose slender spires supported by dense blue-green whorls of flat foliage sprays are a characteristic feature of large areas of high country in the western mountains, is found as far south as the San Francisco Mountains of northern Arizona and the Mogollan Mountains of New Mexico. Although relatively small and unimportant, this tree is the most widely distributed fir in western North America and is common in Colorado, Montana and Idaho, westward through the mountains of Oregon and Washington into the high ranges of British Columbia and northward beyond all the other western firs to sixty degrees latitude in Alaska. True to its name, it grows in cool, moist situations at elevations of 3,500 feet to 10,500 feet and occurs commonly at timber line as well as in protected valleys at the heads of streams, about mountain lakes and on moist meadows. Trees of largest dimensions are found growing on fairly deep, loose, moist soil at elevations of 5,000 to 8,000 feet. It does not thrive on heavy, clayey soils. Within its range it is frequently associated with Engleman spruce, lodgepole pine, mountain hemlock, western white pine, white bark pine and toward the South with aspen and cork fir.

The long, slender, narrowly-conical crown terminating in a conspicuous spire distinguishes Alpine fir from its associates. In the open, the narrow crowns of old as well as young trees extend down to the ground, while in dense forest stands the trunks of old trees are occasionally free from branches for twenty to forty feet. The dense, tough branches at the base of the crown droop and are often sharply curved or bent down upon the trunk. The twigs are commonly covered with tiny rusty brown hairs for two or three years.

Ordinarily, Alpine fir attains heights of sixty to ninety feet with trunk diameters at breast height of fourteen inches to twenty-four inches. Occasionally, trees 175 feet high with diameters of three to five feet have been reported. While moderately long lived, the largest trees are probably not older than 250 years, while trees ten inches to twenty inches in diameter are frequently 140 to 210 years old.

Two types of deep blue-green leaves or needles ranging from less than an inch to one and three-quarters inches long are commonly found on each tree. The leaves occur singly and are arranged alternately on all sides of the twigs. Those of the lower branches are relatively long, flat, blunt and all are distinctly upward pointing. On the higher limbs and branches the leaves are thicker, somewhat shorter, pointed and retain the feature of being distinctly massed and upward pointing. Each new season's growth of foliage has a silvery tinge.

Flowers of both sexes are borne on twigs of the previous year, on different parts of the same tree. The solitary staminate or pollen-bearing flowers are dark blue, later turning violet, and occur abundantly on the lower branches in the axils of the leaves. The scaly pistillate flowers are fewer in number, a violet-purple and stand erect on the upper branches of the crown. These mature during a single season into downy, deep purple cones whose cylindrical form is contracted toward the tip. They are from two and one-quarter to four inches long, about one and one-half inches in diameter, and stand erect on the upper branches

The slender dark blue-green spires of Alpine fir are striking features in many areas of the western mountain region.

to form a purple cluster in the top of the tree. During warm weather they frequently drip with silvery resin.

The scientific name *Abies lasiocarpa* is derived from the Greek words *lasius*, meaning hairy or woolly, and *carpous*, meaning fruit. Literally translated, this would mean the fir bearing a hairy, pubescent fruit and compares with the common name, "downy-coned" fir.

Beneath each rounded cone scale are two ivory-brown seeds about one-fourth of an inch long with a large lustrous purplish or violet tinged wing. The cones swell when they ripen, releasing the scales as well as the winged seeds, so that the central axis remains on the tree for one or more seasons. The seeds retain their life but a short time, but during that period their capacity for germination is relatively high. Trees produce cones as early as the twentieth year and continue to bear abundant crops of seed at intervals of about three years. During some seasons, however, cones over large areas may fail to mature.

The rounded winter buds, consisting of light orange-brown scales more or less covered with resin may be a quarter of an inch thick.

The flinty bark of the trunk is usually gray, but sometimes a chalky white. It is relatively thin, seldom more than an inch and a quarter thick and is marked by the blister-like resin pockets characteristic of all the firs or "balsams." Even on large trees the bark is little broken except for occasional narrow shallow cracks near the base of the trunk.

Alpine fir is of little commercial importance and probably constitutes a minor part of the total estimated volume of 131,736,000,000 board feet of standing timber credited to the seven species of western fir. The pale, straw-colored wood is fine-grained, soft, and except for frequent small knots works easily, but is not durable in contact with the soil. Weighing only about twenty-one pounds to the cubic foot of dry wood, it is the lightest of all the firs. Dead timber is used locally for fuel, house logs and corral logs, while standing timber is occasionally cut and sawed into rough lumber for local use. It is primarily important as a protection forest on steep slopes at high elevations where few other conifers can live.

Natural reproduction is usually abundant in the open on exposed mineral soil and on moist duff under light or comparatively heavy shade. Seedlings grow thickly on the north sides of groups of trees and under the branches of mother trees.

Fire is the chief enemy of Alpine fir. The dry lower branches are highly inflammable and when ignited quickly lead to dangerous crown fires. Even ground fires seriously injure the thin bark and make openings which harbor wood-destroying fungi. Insects seldom threaten the lives of these trees, but aphids or "plant lice" sometimes kill the lower branches.

Although naturally subjected to a rigorous climate with forty degrees below zero in winter and heat of ninety degrees in summer, Alpine fir has not proven hardy for planting in the northeastern states where it is subject to winter injury.



Photograph by George C. Stephenson

Purple cones, dripping with silvery resin, stand upright near the treetops on twigs of the previous year's growth.



The hard, flinty, ashy-gray bark has the resin-filled blisters characteristic of all balsams.



Natural range of Alpine fir in the United States.

AROUND THE STATES

WITH
THE AMERICAN FORESTRY ASSOCIATION



Hoffmaster Named to Succeed Hogarth in Michigan

George R. Hogarth, director of the Michigan Conservation Department for the past six years, died at Lansing on October 16, after an illness of several months. P. J. Hoffmaster, superintendent of State Parks, was named by the State Conservation Commission to succeed him.

Mr. Hogarth first became associated with conservation work in 1927 when he was appointed secretary of the Michigan Conservation Commission. In the spring of 1928 he was made director of the Department.

Under his administration, the Conservation Department was remodeled and enlarged. He divorced it from political influence and launched on a long time conservation program based on scientific research and fact-finding. He was particularly active in pressing action against extensive fur-poaching rings in the Upper Peninsula of the State, made vigorous efforts to enroll the support and cooperation of the general public and sportsmen behind his conservation program, and built the State's forest fire-fighting force to a record peak of efficiency.

Mr. Hogarth was almost as widely known in military as in conservation circles, holding the rank of Lieutenant-Colonel in the Adjutant General's Department, Reserve Corps. He was a veteran of the World War.

Mr. Hoffmaster, a graduate of Michigan State College, was formerly connected with the District Department of Parks and Boulevards in landscape and forestry work, becoming superintendent of State Parks in 1922. During his regime the park system of Michigan has been developed to serve 9,000,000 people annually.

Government May Acquire Famous Tionesta Forest in Pennsylvania

The National Forest Reservation Commission will have before it for consideration at a meeting scheduled for November 23 purchase of 16,000 acres of forest land in Pennsylvania as an addition to the Allegheny National Forest. The proposed addition includes some 4,000 acres of virgin timber—the largest remnant of original forest to be found between the Adirondacks with their spruce and fir and the Great Smokies with their oaks and poplar. The tract is on Tionesta Creek, a tributary of the Allegheny River. It is lo-

cated not far from the small settlement of Wetmore, Pennsylvania.

Purchase of the area is being recommended by the Forest Service which has secured an option on the land at a price considered fair from the standpoint of the Government. If the purchase is approved by the Government as seems probable, it will constitute the most notable acquisition for public purposes of original forest in recent years and will be comparable to the purchase of the famous Waterville tract in New Hampshire in 1928. Plans of the Forest Service in reference to management of the addition, if approved, contemplate preservation of the virgin timber as an example of the original forest of hemlock and hardwood which originally covered much of the eastern country.

The area, now owned by the Central Penn-



George R. Hogarth



P. J. Hoffmaster

sylvania Lumber Company, is entirely surrounded by the Allegheny National Forest, and lies along Tionesta Creek, at an elevation of about two thousand feet above sea level. It includes eastern hemlock trees with tops reaching to a height of 125 feet, together with beech, sugar maple, black cherry, yellow birch and black birch, ash, basswood, tulip poplar and cucumber trees little if any smaller.

Officers of the Pennsylvania Forestry Association, recognizing the unique scientific and esthetic values in so large an area of virgin timber, proposed last year that the tract be included in the National Forest and maintained as nearly as possible in its natural condition as a primitive area. In AMERICAN FORESTS for February of this year, Reginald D. Forbes, in an article entitled "The Thousandth Acre," described the beauties of the forest and the scientific and recreational values that warrant Federal ownership.

Funds for Control of Dutch Elm Disease Still Lacking

As this issue of AMERICAN FORESTS goes to press, funds with which to meet the critical emergency existing in respect to control and eradication of the Dutch elm disease were still lacking. Although President Roosevelt has personally interested himself in the situation, the Department of Agriculture has failed to locate the half million dollars of Government funds needed to continue the fight for the elm and the outlook for emergency funds was not favorable.

At the annual meeting of The American Forestry Association in Knoxville, members of the Board of Directors held a conference with Mr. Fechner, Director of the Civilian Conservation Corps, and Mr. Silcox, Chief of the Forest Service, relative to the possibility of federal action to meet the emergency. Mr. Fechner assured the Directors that he was ready to do anything necessary in making the Civilian Conservation Corps available in so far as it could be used, and Mr. Silcox stated that as a last resort he would consent to releasing some of the emergency funds which are being allocated to the Forest Service for forest acquisition in order to continue the fight for the American elm. Both men felt, however, that the logical course along which the government should proceed is through the Public Works Administration for immediate allocation of public works funds.

Proceeding along this line, the Secretary of Agriculture, during the week of October 22, with

the approval of the President addressed a letter to the Public Works Administrator requesting such an allocation. Inquiries at the office of Secretary Ickes on November 12, however, reveal that no action has been taken on this request.

It is known that President Roosevelt and the Department of Agriculture are being importuned by a large number of individuals and organizations throughout the East to hasten action in providing funds. Valuable time is being lost by the slowness of governmental machinery in that the fall months are much more favorable for control and eradication work than the winter months. As previously reported, the number of trees in the region where the Dutch elm disease has been located which must be removed before next spring is estimated at forty to fifty thousand. Unless these trees are removed before next spring, authorities agree that the disease will likely be out of hand.

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A McCormick-Deering T-40 TracTracTor, powered by a Diesel engine, pulling stumps and clearing the road on a new section of highway under construction near Seattle, Wash.

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McCormick-Deering TracTracTors are the most accessible crawler tractors on the market. Steering clutches and brakes can be inspected, adjusted, or replaced through rear cover plates without disturb-

ing the tracks, track frames, or driving sprockets. All parts are equally accessible. Special dust seals guard every shaft and bearing against entrance of sand, dust, mud, water, etc.

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"Merry Christmas" is again our creed at these friendly hotels by the sea. It lurks in every stocking stuffed and waiting for the children. It resounds in the glad chorus of carols around the Haddon Hall tree on Christmas morning. It greets you anew in the bountiful feast our chef has conjured up as a sort of special Christmas present. And the program we've arranged—of pleasures for the youngsters, of concerts, dances and special entertainments for the grown-ups—will convince you that Santa himself presided over the plans for your holiday here.

The resort, too, offers many special and timely attractions. Church is close by. The Boardwalk is at our door, a veritable fairy-land of lights and decoration. There's ice hockey in the Auditorium, horseback riding beside the surf, golf on nearby courses. Also our long Ocean Decks from which to view the sea and the holiday spectacle. Dull moments just don't exist.

So rally round the Christmas tree at Chalfonte-Haddon Hall. We'll make you feel at home without the fuss of maids and meal-planning. Make a grand family party of it and stay as long as you like. Christmas lasts all week with us. Moderate rates on both the American and European plans. Also special weekly rates. Write for reservations.

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NATION-WIDE OPPOSITION TO FOREST SERVICE TRANSFER

Declaring that the time has come for the public to give vigorous expression of its views in respect to the threatened transfer of federal forestry work from the Department of Agriculture to the Department of the Interior, The American Forestry Association has addressed letters to several hundred organizations and individuals throughout the country interested in forestry and conservation. The letters, accompanied by reprints of Colonel Graves' article "A Dangerous Proposal" appearing in *AMERICAN FORESTS* for November, stated:

"Evidence continues to accumulate that convinces us a strong effort will shortly be made to have this transfer effected by Presidential Proclamation under authority granted by the act passed by the last Congress. This effort may be attempted immediately following the fall elections on November 6. Failing to accomplish their purpose by Presidential action, those seeking to bring about the transfer, we believe, will endeavor to accomplish it through Congressional action in January. . . .

"The Association holds that federal forestry work should be retained in the Department of Agriculture and that, in addition, all agricultural activities such as range management and erosion control should be in the same department.

"In view of the seriousness of the situation, we urge that all citizens, individually and through their organizations, act without delay to make their views known. *First*, to the President and his advisers; and, *Second*, to representatives in Congress."

Following this urgent request the Association is in daily receipt of acknowledgments accompanied by copies of letters and telegrams addressed to the President. These statements not only agree with The American Forestry

Association in opposing the transfer of the Forest Service, but frequently express the opinion that an effective solution of our land use problem demands that all essential agricultural activities be included within the Department of Agriculture. To this end the proposal is made that grazing on the National Forests be coordinated with grazing on the unreserved public domain and that control of erosion and development of subsistence homesteads, now in the Department of the Interior, be grouped where their administration may be worked out in combination with forest management and the needs of crop production.

Organizations now on record by resolution or otherwise in opposition to the removal of the Forest Service from the Department of Agriculture include The Society of American Foresters, The American Forestry Association, National Grange, American Farm Bureau, Association of State Foresters, Land Grant College Association, Camp Fire Club of America, American Game Association, National Lumber Manufacturers Association, National Parks Association, American Walnut Manufacturers Association, Isaak Walton League of America, Society for the Protection of New Hampshire Forests, Blackfoot Forest Protective Association of Montana, Farmers' Federation of North Carolina, Central States Forestry Congress, Connecticut Forest and Parks Association, Ohio Forestry Association, Georgia Forestry Association, Massachusetts Forest and Park system, Ohio Forestry Association, Georgia Forestry Association, Massachusetts Forest and Park Association, Michigan Forestry Association, Monongahela Forestry Association, North Carolina Forestry Association, Cascade Wonderland Association of California, and the Chambers of Commerce of California, Florida, Los Angeles, and Spokane.

CAROLINA PARK-TO-PARK HIGHWAY SELECTED BY ICKES

After a careful study of proposed routes for the Shenandoah-Great Smoky Mountains National Park highway, Secretary of Interior Ickes on October 12 decided in favor of the so-called North Carolina route. This route connecting the two parks by a skyline road runs west from Blowing Rock, North Carolina, south of Linville City along the Blue Ridge and the Mount Mitchell and Craggy ranges, which lie east of Asheville, thence to the Mount Pisgah range, bending sharply northwest on a line along that range west of Waynesville, with an entrance into the park at a point where it will connect with the Newfound Gap highway near Cherokee, North Carolina.

The Secretary's decision ends a controversy between North Carolina and Tennessee for location of the route, the latter state urging that its location should be more largely in Tennessee than the route proposed by North

Carolina. In selecting the North Carolina location Secretary Ickes over-ruled the findings of a board of three men, Messrs. Radcliffe, MacDonald and Cammerer, previously appointed by him. The board had reported in favor of the Tennessee route but the selection was appealed to the Secretary by the State of North Carolina.

While the right-of-way is to be donated by the states, the road itself, which it is estimated will cost \$16,000,000, is to be financed solely by the United States. Important among the many considerations which influenced the Secretary to uphold the appeal of the Governor of North Carolina from the findings of the board, was the fact that there is now a well-established entrance to Great Smoky Mountains National Park at Gatlinburg, Tennessee, and it seemed unfair that Tennessee should have the sole entrances to the park from both the west and east.

PRESIDENT TO LIGHT NATION'S CHRISTMAS TREE

Following a tradition of years' standing, the President will light the 1934 National Community Christmas tree on Christmas Eve in Lafayette Square at five o'clock. The tree formerly stood in Sherman Square, just south of the Treasury Department, but the landscaping plans of the city authorities made the finding of a new site necessary and Lafayette Park was chosen as most appropriate because of its nearness to the White House. Two evergreens, in the grass plots immediately east and west of the Jackson statue in the center of the square, will be used in alternate years, to minimize the harmful effects of the heat from the bulbs and the weight of the festive ornaments.

The program, always interesting and in-

spiring, promises to be even more so this year. The lighting ceremony will be preceded by music by the Marine Band for half an hour, and the Christmas carols will be sung. Amplification arrangements have been made to have recordings of old Yuletide songs from the tree itself each evening from Christmas to New Year's Day, supplemented by individual choral groups.

National Capital Park officials and the city authorities are giving whole-hearted cooperation to Mrs. Elizabeth K. Peeples, director of the Community Center Department, who is chairman of the executive committee in charge of the Christmas Tree celebration, of which Ovid Butler, Executive Secretary of The American Forestry Association, is vice chairman.

When Writing Advertisers—Mention *AMERICAN FORESTS*

SAPLING SAM'S COLUMN

*Petrified Trees*

Bill Howell: What makes petrified trees?
 Gene Fry: Why, the wind.
 Bill Howell: How come, the wind?
 Gene Fry: By making them rock!
 —Service Letter.

Acting Cuckoo

He—"What makes you think I wasn't behaving last night?"
 She—"Your wife said you were trying to get the cuckoo clock and the canary to sing a duet."—College Humor.

Ain't Nature Wonderful?—

250-YEAR-OLD TREE
 BEARS BIG CROP
 OF JUICY BEARS
 —New Haven Register.

Christmas Parody

I do not think I'll ever be
 Much help around a Christmas tree,
 A smiling tree that gaily gleams,
 Whose friendly rafters kiss the beams.
 When I festoon the tree with spangles
 I usher in domestic wrangles.
 I yearn to show where things should go,
 But I'm, alas, malapropos.
 I'm like the funny circus clown:
 What others hang up I knock down.
 Poems are made by fools like me,
 But only wives can trim a tree.
 —Arthur L. Lipmann.

Pa, what's a highway?
 A highway, my son, is the space between
 the billboards.—Selected.

Expense

Two Scots were mountaineering in Switzerland, when one of them slipped and fell into a crevasse. The other, peering over the edge, saw his companion holding on almost by his fingernails.
 "Are ye a' richt, Macpherson?" shouted the man in safety.
 "No exactly that," said the other, "but if ye run down to the village an' get a rope I'll try to hang on here till ye come back. Hurry, for heaven's sake!"
 His companion disappeared and was gone nearly an hour. Suddenly his face appeared again over the edge of the cliff.
 "Aro ye still there, Macpherson?" he called down.
 "Aye," in a low, weary tone. "Have ye got the rope?"
 "No, indeed. The dirty dogs in the village wanted a pound for it!"
 —The Kablegram.

One Strike

"Why is it that lightning never strikes twice in the same place?"
 "Because after it's struck once, the same place isn't there."—Utah Humbug.

ABOVE... Paul Goulden, U. S. Coast Guard, winner of the President's Match and N. R. A. Grand Aggregate for 1934.

UPPER LEFT—E. G. Hardesty of Helena, Mont., who broke a record of nine years' standing in winning the U. S. R. A. National Indoor Championship Match "N", with 489 x 500.

UPPER CENTER—Sgt. H. T. Gilmore, winner of the National Rifle Association Member's Match with his score of 50 (8 v's) fired at Fort Lewis, Wash.

UPPER RIGHT—E. C. Jones, U. S. Coast Guard, who tied the 5-year record in the President's Match at the Quantico Regional Matches.

AGAIN in 1934, the world's best shooting has been done with the World's Champion Ammunition—Western!

Western's Victory Record for 1934 again proves the super-accuracy and absolute dependability of Western ammunition. In high power, small-bore, pistol and shotgun competition, Western again was pre-eminent. Following are just a few of the major national matches won with Western:

N. R. A. Grand Aggregate and President's Matches—won by Paul Goulden, U. S. Coast Guard. Scores: 634 and 146 respectively. The latter is only one point under the record. E. C. Jones, U. S. Coast Guard tied the 5-year record of 147, shooting Western in a regional President's match.

N. R. A. Member's Match—won by Sgt. H. T. Gilmore, Wash. N. G. Score—50. And for the 11th successive year the Wash. National Guard Team won the N. G. Division of the Herrick Trophy Match, scoring 1690.

A new national outdoor pistol record of 285 was established by W. M. Stonesifer, Los Angeles Police, in winning the N. R. A. Individual Pistol Championship.

A national pistol record that stood for 9 years was broken with Western Super-Match .22 L. R. cartridges, by E. G. Hardesty of Helena, Mont., scoring 489 out of 500, in winning the U. S. R. A. National Indoor Championship, Match "N".

In shotgun competition, at the 1934 Grand American Handicap, Joe F. Hiestand, Hillsboro, O., won High-Over-All breaking 878 out of 900. Karl Maust of Michigan broke 240 straight to win High Run honors. K. K. Nielsen of Essex, Conn. won the High Individual event at the Great Eastern Skeet Tournament, Lordship, Conn., shooting Western Xpert Skeet loads.

You can obtain results like these, in proportion to your shooting skill; if you shoot Western. Let our staff of experts assist you with your shooting problems, whether high power, small-bore, pistol or shotgun. Our experts are here to serve you willingly, eagerly, without charge. Just Write. Mail the Coupon for free literature describing Western, World's Champion Ammunition.

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SLEEPING BAG

Built in accord with the standards of, and especially for, the U. S. Department of Agriculture Forestry Service. Also extensively used by members of the Predatory Animal & Rodent Control Division of the Bureau of Biological Survey, members of the Army, Navy, Marine Corps, States' Militia, Deep Sea Fishermen, Yachtsmen and Other Sportsmen and Outdoor Men.

**NO OTHER SLEEPING BAG SO PRACTICAL
— NO OTHER OFFERS SUCH VALUE — MAIL
COUPON NOW FOR DETAILED PARTICULARS**



"Forest Ranger"—from the big timber country or the Pacific Northwest—a "man's man" sleeping bag—by men who know. Outer cover of green, waterproofed U. S. Army Duck. Snap down side and across end, facilitating opening for thorough airing. Extension head flap for use as wind break or protective wedge when weather is "rough." Detachable mattress, generously filled with cylinder blown, life-belt kapok. Scientifically tufted—"stands up" under hardest wear—doesn't lump—NO thin spots. Extra sheet to protect mattress against being soiled. Insect-proof netting attachment also included if desired, at no extra cost. Home comfort—cabin warmth. Easy to handle—12½ pounds. Thoroughly guaranteed. Two styles—with "easy pack" shoulder straps, \$15.00 each; without straps, \$14.00. If your dealer hasn't the "Forest Ranger" in stock, use coupon for quick, express prepaid, direct service.

SEATTLE TENT & AWNING CO. SEATTLE WASHINGTON, U.S.A.	
PLEASE SEND ME CHECKED ITEM	
Name _____	<input type="checkbox"/> Shoulder Strap "Forest Ranger," Price \$15.00
Address _____	<input type="checkbox"/> Regular "Forest Ranger," Price \$14.00
Dealer's Name _____	<input type="checkbox"/> Free Descriptive Folder

The HKP FORESTER No. 3

McKenney Type U. S. Pat. No. 1607470



for
**Brush Cutting..
..Trail Clearing**

This tool easily cuts two inch standing green wood. Handles easily cutting over head or on the ground. Developed for reforestation work, cutting brush, road-side stripping, general improvement, cutting in stands of all ages.

Patented slide shift power slot makes possible a powerful tool without excessive weight. Guaranteed to cut two inch diameter standing green wood. Fine steel jaws stay sharp and stand up under hard use.

Write for folder showing tool in use and full details.

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H.K. PORTER INC.
EVERETT MASS. U.S.A.**

(Ask your hardware jobber.)

DR. T. GILBERT PEARSON IS MADE PRESIDENT EMERITUS OF AUDUBON SOCIETIES

Dr. T. Gilbert Pearson, for twenty-four years executive head of the National Association of Audubon Societies, voluntarily retired as President of the organization on October 31. The Board of Directors, expressing great regret at his decision and in recognition of his life-long service to the Association, elected him its President Emeritus. At the same time Kermit Roosevelt, second son of ex-president Theodore Roosevelt, was elected President of the Association and Mr. John H. Baker, Chairman of the Board, was made Executive Director.

In his new capacity, Dr. Pearson will continue to serve the Association's interests, devoting his time to international activities, lecturing, writing, legislative work and in aiding to spread the Association's policies of wildlife protection.

Dr. Pearson became executive head of the Audubon Societies in 1910 upon the death of President Dutcher. From that date he has borne the weight of both the executive and financial responsibilities of the Association. Prior to becoming head of the Audubon Societies Dr. Pearson, while Professor of Biology in the State Normal College at Greensboro, North Carolina, organized in 1902 the Audubon Societies of that state and was head of its organization for seven years.

From that time he has been a tireless and inspiring organizer of movements for wildlife preservation. He was the founder and for

several years Chairman of the National Committee on Wildlife Legislation. In 1922 he exerted a leading influence in forming the International Committee for Bird Preservation which now has branches in twenty-three countries. He has filled the Chairmanship of this International Committee since its beginning and has presided over its bi-annual meetings in London, Paris, Luxembourg, Geneva, Amsterdam and Oxford. To him the Association is largely indebted for the establishment of the Sheldon Antelope Sanctuary, the Rainey Wild Life Sanctuary for Wild-fowl, the Orange Lake Refuge for Egrets and Herons, the Green Island Sanctuary for Reddish Egrets, the Roosevelt Memorial Bird Fountain, and the fund of \$113,000 already collected toward the purchase of a building to serve as the Association's headquarters. Dr. Pearson has been unusually successful in securing gifts of money for bird and mammal protection. When he assumed the executive responsibilities of the Association in 1910, it was burdened with a debt of nearly \$8,000. The first year of his stewardship he paid off this obligation and for all the twenty-four years that have since elapsed the organization has annually closed its books with a surplus in all of its working funds. The endowment fund of more than \$1,500,000 exceeds in amount the combined endowments of all other conservation organizations in this country.



T. GILBERT PEARSON
President Emeritus, American Audubon Society

STATE FORESTERS URGE EXPANSION OF STATE FORESTS

A plan looking to the establishment of a system of federally-owned, state-operated forests was formulated and approved by the Association of State Foresters at its annual meeting in Knoxville, Tennessee, October 16 and 17. Pointing out that "publicly-owned forests administered by the several states would comprise an integral part of a national conservation program dealing with watershed protection, soil retention, game and wildlife refuge, social and recreational welfare, timber production and labor and industrial stabilization," the Association urged the allocation of \$20,000,000 of any Federal funds now or later available for the initial establishment of the system.

It further urged the passage of a congressional act carrying an appropriation of \$20,000,000 to be used in expanding the system in those states "which by law provide adequate appropriations and organizations for the continuous protection, development and management of the lands." The proposed law would be applicable to a state only when it has established a forestry department which in the judgment of the Secretary of Agriculture is adequately financed and has a technical forestry personnel sufficient to guarantee long term stable administration of the public forests so established. The Secretary would

be authorized to spend appropriated funds in cooperation with the state forestry departments, and the states would be expected to make annual appropriations sufficient to provide for necessary protection and administration.

Following its meeting the Association also announced a policy adopted in respect to distribution of nursery stock from state forest nurseries. Such nurseries, the statement asserts, should confine themselves to the production of planting stock for forest plantations, shelterbelts and wind breaks and no planting stock should be sold or given away to private owners of land for ornamental planting.

Other resolutions and policies adopted by the Association include: (1) assertion for clear understanding between the Federal Government and the states in respect to purchase of forest lands for National Forest purposes; (2) that the United States Forest Service establish an agency or unit, preferably in the Branch of Public Relations, to help further the interests of the states along all lines of forestry endeavor; (3) that the Civilian Conservation Corps be continued essentially in its present form, that forest, park and erosion camps be included in the program if it is carried beyond the present limit of authorization, and that after an appropriate number of camps are allotted to federal agen-

cies, the remainder be allocated among the various states in proportion to their respective quotas of enrollment; (4) that the National Forest Reservation Commission and the various states include in their current purchases for national and state forests so far as possible suitable areas of virgin forests to be maintained for scientific and demonstration purposes; (5) that forest research conducted by the Federal Government be more closely correlated with the forest work of the states; (6) that the merit system should prevail in the selection, employment and retention of the technical forestry personnel of the several states; (7) that the United States Forest Service be retained in the United States Department of Agriculture.

Representatives of twenty-eight states attended the Association's meeting at Knoxville. Officers elected for the ensuing year are: President, Harry Lee Baker of Florida; Vice President, John H. Foster of New Hampshire; Secretary-Treasurer, George R. Phillips of Oklahoma; members of the Executive Committee, William G. Howard of New York and L. F. Cronmiller of Oregon.

Western Conservationists to Meet

Private, state and federal forestry and conservation agencies of the Pacific Northwest will meet with the Western Forestry and Conservation Association at Portland, Oregon, on December 4 and 5. Forest protection will be the keynote of the meeting.

Forest Service Proposes Drive on the Forest Fire Menace

F. A. Silcox, Chief of the Forest Service, in a letter recently sent to public and private agencies, stressed the imperative need of a more intensive and widespread campaign to meet the forest fire hazard which is progressively becoming worse. Man-caused fires in particular are on the increase. Up to October 10, 1934, shows a total of 5,282 man-caused fires on the National Forests as against an average for the last three calendar years of 3,898. This represents an increase of man-caused fires of over thirty-five per cent.

"Despite the excellent work done by foresters and allied agencies, the toll on forested areas was very heavy," said Paul G. Redington, Assistant Forester. "This is an intolerable situation and drastic measures to cut down this unnecessary loss will have to be taken in the immediate future."

The Forest Service is calling for more effective team work on the part of individuals and agencies throughout the country and is preparing a tentative program of education designed to reduce man-caused fires. Among other things the program proposes issuance of a proclamation by the President dealing specifically with the forest fire hazard; participation of governors in an intensive program of education within their states; and more aggressive activity on the part of all organizations interested in conservation to stop the increasing number of man-caused fires and to inculcate care with fire in the woods. The use of radio broadcasts in reaching the public is also contemplated. Other details of the program, which it is hoped can be started early next spring, are now being worked out.

According to a preliminary survey of forest fire statistics for the calendar year 1933, the bulk of the fires were caused by smokers, incendiaryism and the burning of brush. Smokers' fires led all others and accounted for almost thirty per cent of the total.



Portion of a crowd attending Championship Chopping Contests in Australia.

Plumb Axes win every event at Brisbane Show

A GAIN Plumb proves its right to the title—"The Axe of Champion Choppers." At the Championship Matches held at Brisbane, Australia, in August, 1934, Plumb Axes won first place in all eight events!

Chopping is a national sport in Australia. Choppers whose livings and reputations depend upon speed and keenness in an axe are almost unanimous in their use of Plumb. At the Brisbane Show there were 140 axes carried by contestants, 120 were Plumb Axes!

Plumb Axes are made of special steel, developed exclusively for axes.

Every batch of this steel is double-tested.

And every Plumb is hardened and tempered in modern electric furnaces. Every blade is uniform. There is no guesswork in Plumb tempering.

Every Plumb is balanced so that the blade falls naturally with the swing of your arms.

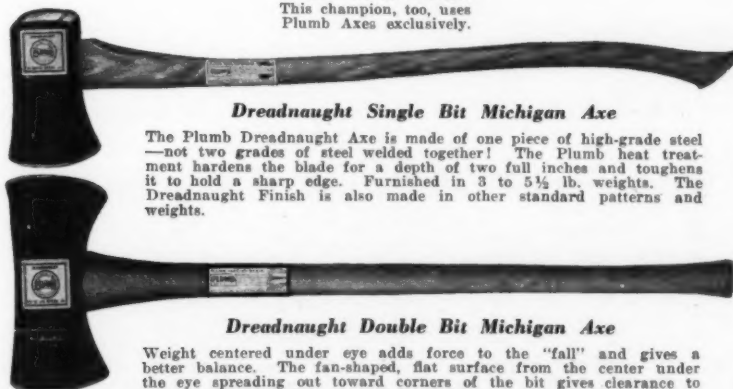
Every Plumb blade is tapered to roll the chip and clear itself in the cut. Every handle

is of springy young hickory, subjected to a pressure test to prove strength and resiliency.

You get so much more in a Plumb Axe. Yet it costs no more. Look for the Red Handle and Black Head.



PETER McLAREN
America's Champion Chopper
This champion, too, uses
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Dreadnaught Single Bit Michigan Axe

The Plumb Dreadnaught Axe is made of one piece of high-grade steel—not two grades of steel welded together! The Plumb heat treatment hardens the blade for a depth of two full inches and toughens it to hold a sharp edge. Furnished in 3 to 5½ lb. weights. The Dreadnaught Finish is also made in other standard patterns and weights.

Dreadnaught Double Bit Michigan Axe

Weight centered under eye adds force to the "fall" and gives a better balance. The fan-shaped, flat surface from the center under the eye spreading out toward corners of the bit gives clearance to the cut. Furnished in 3 to 5 lb. weights.

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The Long-Bell Lumber Company

and shall continue to collect all Pacific Coast and Gulf States
conifers and to grow planting stock for the Forester
and the Nurseryman.

Site and Climatological Data Supplied
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JOHN B. WOODS, FORESTER - LONGVIEW, WASH.

Richey Succeeds Ryerson as Chief of the Bureau of Plant Industry

Frederick D. Richey was appointed Chief of the Bureau of Plant Industry on October 23, succeeding Knowles A. Ryerson, who has resumed work with citrus fruits, avocados, dates and other sub-tropical fruits which he conducted before his appointment as Chief of the Bureau last January. During this period Mr. Richey has been Associate Chief of the same Bureau.

Mr. Richey has been with the Department of Agriculture since 1911. His interest in scientific work is evidenced by the fact that since 1922 he has been in charge of research in corn breeding investigations, and is a geneticist of recognized leadership. Born in St. Louis in 1884, he was graduated from the University of Missouri in 1909.

Forest Service Starts Work on Shelterbelt

Preliminary work on the 1,000-mile Great Plains Shelterbelt Project, for which \$1,000,000 of Emergency Relief Funds was allotted recently, has already begun, with men now in the field making detailed surveys of location, soil conditions, tree types, and other factors, according to the Forest Service.

Acting Director Paul H. Roberts stated that surveys now under way will also take into consideration social and economic conditions in the region, including the relationship of the shelterbelt to agriculture, local industry and employment, and to other forestry projects. Measures for management of the plantings will also be worked up. Mr. Roberts has assumed active charge at Lincoln during the absence of Assistant Forester Fred Morrell, who has returned to Washington for work in connection with the Civilian Conservation Corps.

Other activities such as obtaining supplies of tree seed, and leasing of nursery sites and a limited number of shelterbelt strip areas for planting will be initiated immediately. It is also possible that arrangements can be made for purchase of suitable tree stock in existing commercial nurseries for planting next spring.

Dr. Raphael Zon, director of the Lakes States Forest Station at St. Paul, is directing the technical phases of the Shelterbelt. The station is adding a new unit to its staff, members of which are already in the field making the surveys and studies of land, climate and local conditions. Approximately twenty temporary employees have been added to this unit, all of them trained field men.



Forestry Questions Submitted to The American Forestry Association, 1713 K St., N. W., Washington, D. C., will be Answered in this Column. . . . A self-Addressed Stamped Envelope Accompanying Your Letter will Assure a Reply.

† † †

QUESTION: Has any one person hiked the entire length of the Appalachian Trail from Maine to Georgia? Are guide books and maps available?—R. W., New York.

ANSWER: No one has covered all the 2,050 mile trail because a strip of about eighty miles in the Maine wilderness is not completed, but Myron H. Avery, of the Potomac Appalachian Trail Club reports that he has made inspection trips over all but seventy-three miles of the completed trail. The entire Appalachian Trail is described briefly in a small booklet of the Appalachian Trail Conference, available for twenty-five cents from the headquarters at 901 Union Trust Building, Washington, D. C. The portion between the Susquehanna River and the Virginia-Tennessee line is described in "Guide Paths in the Blue Ridge," published by the Potomac Appalachian Trail Club of Washington, D. C., and for sale at \$3.00. Other portions of the trail are described in separate books by other sections of the club.

QUESTION: How did the Indians dye the porcupine quills which they used in connection with their bead and leather work?—A. C. B., New Hampshire.

ANSWER: The following is quoted from a report by Lieutenant J. W. Abert on his examination of New Mexico in 1846 and 1847, published in Executive Document 41, of the Thirtieth Congress: "This morning 'Old Bark' brought me what I wished, the sumach berries, with which that bright red is produced, and moss from the pine tree, that yields a yellow tint. The green dye is made from copperas. What looks like black porcupine quills, are either portions of the quills of birds, or the radicles of the 'typhis latifolia,' which they flatten by pressing between weights."

QUESTION: Does a dishonorable discharge from the Civilian Conservation Corps of America mean that the discharged person can no longer secure employment from the Government?—C. P., Michigan.

ANSWER: According to the War Department Regulations, no man who has been separated from membership in the Civilian Conservation Corps by dishonorable discharge, or by administrative discharge will again be eligible for reselection or reenrollment in the Civilian Conservation Corps. We have no official information respecting the attitude of other agencies or departments of the Government, with respect to the employment of former enrollees of the Civilian Conservation Corps who have been dishonorably discharged therefrom.

Foresters Protest Dismissal of Jackson

In a public statement issued October 27, the Society of American Foresters entered a vigorous protest to the recent dismissal of W. E. Jackson, State Forester of Kentucky. Mr. Jackson, whose term expired June 30 but who had been continued in office, was dismissed on October 1 and replaced by K. S. McConnell. Mr. Jackson's dismissal, according to the Society's statement, was promptly followed by the voluntary resignation of both of his technical assistants. In the opinion of the Society the action has set back forest conservation in the state by ten years.

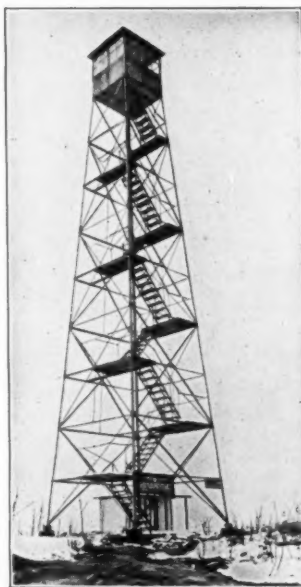
"The state forest organization is completely shattered," the Society charges. "Cooperators in fire protection under the Clarke-McNary law have withdrawn their cooperation. The accumulated training and experience of this administrative organization is lost to the state."

* * * The appointment of the new state forester was in fulfillment of a political promise made by the Governor previous to his election two years ago, and is in violation of a written agreement between the state officials and the United States Forest Service to the effect that the merit system should govern appointments to the State forest service.

"The success of a state forestry program in Kentucky," the Society asserts, "depends upon building up an intelligent sentiment against the setting of forest fires, backed by impartial law enforcement. This is impossible unless the forestry department is removed entirely from partisan political appointments and kept in the hands of officials retained solely on the basis of merit and efficiency. To pay a political debt, the program of fire protection in Kentucky has been set back a decade."

E. W. Backus of Minnesota Dies

Edward W. Backus of Minneapolis, Minnesota, prominently associated with lumber, paper, and power interests of the United States and Canada which for years have vigorously sought rights to control water levels in the Superior National Forest and adjoining lands in northern Minnesota, died of a heart attack in a New York hotel on October 29. He was in his seventy-fourth year, a native of Jamestown, New York, and a graduate of the University of Minnesota. On April 17, 1930, Mr. Backus made a dramatic appearance before the House Committee on Agriculture in opposition to the bill which was passed on July 10 of that year and is known as the Shipstead-Nolan Act. This Act establishes policies for the management of National Forest lands and protects water levels on about two million acres in and adjacent to the Superior National Forest. He is survived by his widow and a son, Seymour W. Backus, who is active in the Backus-Brooks Company, of Minneapolis, formerly headed by his father.



Courtesy Penna. Dept. of Forests and Waters.

FIRE TOWERS

THIS 60-foot tower, erected in Elk County, Pennsylvania, is one of the many Aermotor fire towers which are found all over the forest regions of the United States. The Aermotor Company, years ago, designed and made the first galvanized steel towers for forest protection purposes. Aermotor towers have been found to be so well suited to the purpose that they are used almost exclusively. They are strong, durable and safe to climb. The prices are surprisingly low.

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KNOWN FOR LOGGING. ALSO
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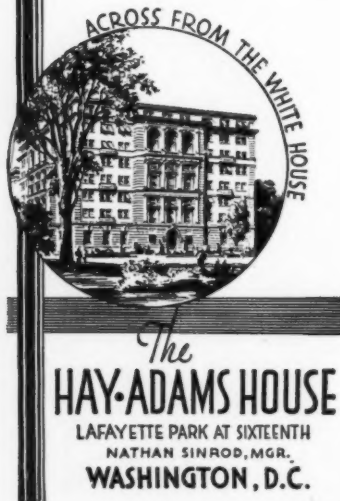
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The world famous parks and drives here are at their best now with beautiful autumn colors and bracing weather. Visit Washington this fall and enjoy your stay more.

Stop at this distinctive hotel. Quiet exclusiveness—downtown location, facing Lafayette Park.



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Offers thorough training in Practical Forestry, preparing for Federal, State, and private work.

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Write for further particulars

RICHARD E. MCARDLE, *Dean*

Committee Nominates New Officers

Members of The American Forestry Association will receive shortly after December 1 their ballots for the annual election of officers of the Association. The ballot will include nominations for President, twenty-one Vice Presidents, Treasurer and four Directors. All officers except the Directors will be elected to serve for one year or through 1935. Three of the Directors will be elected for terms of five years each, and one for a term of three years to fill the unexpired term of Mr. George D. Pratt, whose resignation as President and a member of the Board has been occasioned by doctor's orders.

The committee on elections this year consists of Ralph S. Hosmer, Cornell University, Ithaca, New York, Chairman, and William L. Hall of Hot Springs, Arkansas. The candidates nominated by the committee are:

For President

Henry S. Graves, Connecticut—Dean of Yale Forest School.

For Directors

For five-year term—

W. R. Brown, New Hampshire—Chairman, New Hampshire Forestry Commission.

For three-year term—

Samuel T. Dana, Michigan—School of Forestry and Conservation, University of Michigan.

A. S. Houghton, New York—New York State Reforestation Commission.

George Hewitt Myers, District of Columbia.

For Treasurer

George O. Vass, District of Columbia—Vice President, Riggs National Bank.

For Vice Presidents

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Game Conference in January

The twenty-first annual conference of the American Game Association will be held in New York City on January 21, 22 and 23. Hoyes Lloyd, Supervisor of Wildlife Protection of the National Parks of Canada, will be chairman of the conference.

American Civic Association Discusses Land Planning at St. Louis Meeting

Declaring that this nation is on the threshold of a large program of land use readjustment which will require large expenditure of public funds and cooperation on the part of many agencies, Assistant Director Noble Clark of the Agricultural Experiment Station of the University of Wisconsin urged the setting up of cooperative administrative machinery in the several states after the manner of the Agricultural Experiment Stations, forest protection under the Clarke-McNary Act and the federal relations with the State Highway Departments. His address on "Coordinating County Land Planning with State and Federal Programs" was one of several by national leaders at the annual conference of the American Civic Association in St. Louis, Missouri, October 22, 23 and 24, and continued at Columbia, Missouri, on the 24th. The list of speakers included Secretary of Agriculture Henry A. Wallace and the Assistant Secretary M. L. Wilson, together with Frederic A. Delano, President of the American Civic Association and Vice-Chairman of the National Resources Board.

Anticipating the report promised by the National Resources Board for January first, in which plans for the economic use of land in the several states will have been welded into a balanced plan for the nation, Professor Clark expressed the need for decentralizing the work of administering such a plan. "Some way must be found to delegate responsibility and authority to the several states," he said, "at the same time providing safeguards for the federal funds involved, to be sure that they are spent efficiently and that broad national interests are respected."

Speaking particularly in terms of land planning as revealed in the Wisconsin Rural Zoning Ordinances, Professor W. A. Rowlands of the University of Wisconsin's Department of Agricultural Economics declared that in less than three years more than one-fourth of the agricultural counties of Wisconsin have enacted zoning ordinances which promise the closing to agricultural development of fully five million acres of sub-marginal land. In these counties land most useful for forestry and seasonal recreation is withheld from agriculture or uses involving year-long residence, while the zoning of other areas permits year-long residence for recreation but not for agriculture.

The acceptance of the Wisconsin zoning law is wholly optional with the county voters and the fact that proposals made in 250 town meetings were adopted in all but nine towns is considered as highly indicative of the popular approval of a plan which relieves the taxpayers of responsibility for supporting roads, schools and other county improvements for itinerant farm families on sub-marginal land.

Georgia to Make Forest Land Survey

A forest and potential forest land survey of Georgia has been authorized by the State Commission of Forestry and Geological Development for the guidance of the Commission in formulating its policies. The Committee is headed by T. G. Woolford, Atlanta, prominent in promoting forestry in the state, and director in the U. S. Chamber of Commerce. Other members of the land survey committee are Alex K. Sessoms, Cogdell, and Col. Perry Middleton, Brunswick, both of whom are large forest land owners and actively engaged in the practice of forestry and in the production of naval stores.

Holmes Completes 25 Years As North Carolina's Forester

This year, State Forester J. S. Holmes celebrates his twenty-fifth anniversary in this important State office. In the rush of perhaps the most important period that conservation has experienced, the occasion, insofar as the forester himself is concerned, has slipped quietly by almost unnoticed.

Pioneers in a great public movement often are denied the opportunity of seeing the fruition of dreams of a lifetime, but State Forester Holmes enjoys the particular pleasure of witnessing much of his vision of



J. S. HOLMES

For twenty-five years State Forester of North Carolina.

twenty-five years develop into a reality. The Federal government, under the leadership of President Roosevelt, has given the general conservation movement, which includes forestry as one of the basic features, the greatest impetus ever received in the history of the country.

It was after he was approaching middle age that Mr. Holmes, who had earned a certificate in agriculture from the University of North Carolina, decided to dedicate his life to forestry and to return to train himself for this work. He relinquished farming at the age of thirty-four years and obtained employment as a student assistant with the United States Forest Service at a salary of \$25 a month in 1902. The inspiration of his mother, whom Mr. Holmes describes as having "a deep, intense love of nature as well as of God and her fellow creatures, and following the leadership of the late Dr. Joseph A. Holmes, professor of botany at the University," aroused his interest in forest and field. A year later Mr. Holmes entered the Yale School of For-

estry. Although out of college for fifteen years, he finished the course near the top of his class and again went with the Forest Service, spending four years in miscellaneous duties in the South and Southwest.

When the position of Forester with the old North Carolina Geological and Economic Survey became vacant through the resignation of the late W. W. Ashe, in 1909, Mr. Holmes accepted the offer of Dr. Joseph Hyde Pratt to fill the vacancy and his service has been continuous in office since that time. Since 1921, which may be termed as the official beginning of the enlarged program in North Carolina, the organization and scope of work grew steadily until operations were curtailed by the recent depression. However, this was only a temporary setback and the program is being pursued on a larger field than ever before, largely by means of assistance of the Federal government. Forty-four counties are now co-operating in the system under which the State and Federal government match funds supplied for forest fire protection.

State Forester Holmes' long service in North Carolina gives him second place in this respect in the nation. Only F. W. Besley of Maryland exceeds him in length of tenure of office in the same capacity. During these years, the North Carolina forester has gained and held the respect of his profession. He was president of the Southern Forestry Congress, 1924-25, and held a similar office with the Association of State Foresters in 1928-29.

Along with his executive duties, Mr. Holmes has found time to prepare numerous publications. No doubt the most popular and widely known of these is "Common Forest Trees of North Carolina," of which he is co-author. Some half dozen issues of this publication have been exhausted. The publication describes the more common species of forest trees in the State in such a manner as to make their identification simple to the average layman. It is probably the best guide book available for trees of this State.

State Forester Holmes is a man with an ideal and he has demonstrated through his years in office that he is willing to sacrifice and labor patiently for the successful culmination of his efforts. The State has no more conscientious worker.

Connecticut Creates Committee on Dutch Elm Disease Control

Walter O. Filley, Forester for the Connecticut Experiment Station in New Haven, was elected Chairman of the newly organized Connecticut Committee on Dutch Elm Disease Control at the first meeting held in New Haven on October 8. Robert M. Ross, of the Connecticut Forest and Park Association, was elected Secretary. Serving with them as an Executive Committee are Mrs. Waldo S. Kellogg of Derby; Dr. J. S. Boyce of New Haven; and John L. Wright, of Hartford. The Executive Committee is authorized and empowered to take action to secure adequate state and federal funds for the control of the disease and to represent the State of Connecticut in any national hearings. During the Committee meeting Chairman Filley declared that a federal emergency appropriation of over \$1,000,000 is necessary for use during the coming fall and winter to destroy the known diseased trees and others which may prove infection centers.



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♦ Book Reviews ♦

THE TROPICAL SUBSISTENCE HOMESTEAD, by John C. Gifford. Published by Books Incorporated, New York and Boston, and available from the University Book Store, University of Miami, Coral Gables, Florida. 58 pages without illustrations. Price 50c.

In "The Tropical Subsistence Homestead" Dr. Gifford presents an argument for the use of tree crops and native tropical plants in connection with subsistence homesteads as a means of sustaining higher standards of living for the negroes and Indians of southern Florida. Such a demonstration, he argues, will serve as an example for the whole Antillian area and if properly guided by the Government will prove successful.

"The tropics," he says, "can produce all the essential needs of man from tree crops." And again, "If every family owned five acres of diverse tropical forests bearing various useful products for home use, free from excessive taxation, there would be more people with a soil and tree conscience and more self-supportive and patriotic citizens in the community."

This little book may be read with interest by those who would seek information regarding tropical forestry and its relation to agriculture.—G. H. C.

TREES OF THE SOUTHEASTERN STATES, by W. C. Coker and H. R. Totten. University of North Carolina Press, Chapel Hill, N. C. 399 pages, illustrated. Price \$2.

To meet the growing interest in our native forests, this book on the trees of the Southeastern states has been prepared and it covers all the trees which grow naturally in Virginia, North Carolina, South Carolina, Georgia and Northern Florida. It brings out many interesting facts, among them that there are more kinds of trees in North Carolina alone than there are in the whole of Europe. Also that commercial quinine, thought to be contained only in the bark of the Cinchona tree of South America, flourishes in the Georgia Bark of South Carolina, a sub-tropical tree and one of the most interesting of our plants. Descriptions are given in simple terms of over 200 native species of trees, nearly all of which are illustrated with drawings showing typical leaves, flowers and fruits. The common name and the scientific name are given for each species and complicated technical terms have been avoided wherever possible. The book will be welcomed by everyone interested in trees as an important addition to the literature.—L. M. C.

A GENERAL TEXTBOOK OF ENTOMOLOGY, by A. D. Imms. Published by E. P. Dutton & Company, New York City. 727 pages with numerous line drawing illustrations. Price \$10.80.

Dr. Imms of the Rothamsted Experiment Station in England, has compiled and presented a complete description of the anatomy and physiology of insects in his "General Textbook of Entomology." In addition he has described and classified in detail many individual insects. No effort is made to describe control measures. The book is primarily one for British consumption but is so fundamental as to be valuable to all students of entomology. It is, as its title indicates, essentially a textbook.—G. H. C.

Ickes Lauds Hetch Hetchy Development

Secretary of the Interior Harold L. Ickes, principal speaker at ceremonies marking first delivery of water from San Francisco's \$100,000,000 municipal water and power project in Hetch Hetchy Valley within the Yosemite National Park, cited the development as a notable demonstration of the ability of the American people to put a natural resource to its highest and most beneficial use. "This," the Secretary said, "is real conservation."

In his address, Secretary Ickes delivered a message from President Roosevelt to the effect that the President "was particularly pleased with this Hetch Hetchy project as a demonstration of what can be accomplished by the Federal Government and a municipality when they work together in harmonious understanding and with a common desire to make use of valuable natural resources for the welfare of the people."

Contrary to press reports, the Hetch Hetchy enterprise from President Roosevelt to the effect that the present reservoir will have to be raised another eighty-five feet before an adequate supply of water will be available to the City of San Francisco. Referring to this enlargement of the reservoir, the Secretary stated:

"When an application was made to the Public Works Administration some time ago for \$3,500,000 to increase the height of the Hetch Hetchy Dam by approximately eighty-five feet, the proposal interested me as Administrator of Public Works. But it was necessary to observe all of the proprieties. We could not allocate this money unless we knew that San Francisco had the right to raise the height of the Dam. Hetch Hetchy, as you know, lies in the Yosemite National Park and the Secretary of the Interior has jurisdiction over national parks. So, before deciding for or against San Francisco's application, the Administrator of Public Works decided to ascertain from the Secretary of the Interior whether the latter would grant the permit, lacking which the project could not be undertaken. These officials considered the matter most carefully and then there came a statement from the Secretary of the Interior that he would grant the permit. Thereupon the Administrator of Public Works approved the application for the loan, the money was allocated, and San Francisco will now be able to proceed with the enlargement of a project which is already one of the outstanding engineering developments of the country, and which, in addition, is a tribute to the enterprise and imagination of a great city which now has a potential water supply that will supply its wants for the next sixty or seventy-five years."

"Nor will water be the only precious product that will be supplied from this project. Located behind the great Hetch Hetchy Dam, as extended, will be a potential supply of electricity capable of furnishing light and power to an area much greater in extent than that of the City of San Francisco itself, at rates so low as to bring it within the reach of all for manufacturing and domestic purposes. * * *

In his address Secretary Ickes took occasion to express his views in regard to conservation in general. He declared that when he got on the subject of conservation he sometimes wondered if he were well balanced. "I simply cannot bear the thought of waste in connection with our natural resources," he asserted. "I become enraged as I go through this broad land and see the havoc that has been wrought by the wanton hand of man. Forests have been cut down with ruthlessness, with no thought of any obligation to replant for the use of future generations. Not only have our forests been wastefully cut down, the slashings have been left to lie on the ground, there to

dry out and become as tinder for the ever-threatening forest fire. * * *

"After fires have destroyed the natural coverage of the soil, which, in ordinary circumstances and according to the laws of a beneficent nature, would absorb rain water as it might fall in ordinary course, that rain water has instantly run off. The heavier the rain, the more rapid the run-off. The result has been erosion. The rich top soil has been carried down into the streams and the gullies, leaving an infertile hardpan lacking the qualities necessary to produce either farm crops or forest crops. A further result of such a condition as this has been that streams have dried up in the summer that formerly, before the natural conditions were too seriously disturbed, contained at least some water even during the dry seasons."

"Other evil results of fire destruction and of indiscriminate and unscientific methods of forestry that greedy lumbermen have been permitted to indulge in this country have been the increasingly rapid disappearance of fish and animal and bird life. * * *

"Another bitter consequence that we have inherited from those 'rugged individualists,' who, ax in hand, zigzagged through and over our forest lands, is the constantly recurring, destructive floods which we have so far fought in vain at a cost of hundreds of millions of dollars. We know now that the devastation of the forests at the head waters of a stream means, in a season of exceptional rains, destructive floods downstream. These floods are the natural sequence of the destruction of the forests and the loss of the absorptive qualities of the soil resulting therefrom. * * *

"So the record runs: Forest lands recklessly and improvidently cut over; slashings left to become tinder for the fire of the incendiary, of the careless camper or of the forked lightning; land coverage destroyed; a disappearing water table; a less stable and equable climate; a vanishing wild life; heavy rains that immediately run off into streams the beds of which lack the capacity to carry off so much water all at once; overflowed banks, raging floods, destruction of property, loss of life; an occasion for sensational headlines and for exclamatory remarks by those of us who dwell safely hundreds or thousands of miles away; then, in short order, a return of the usual calm unconcern of the average American who, like the sparrow, gives no thought for the morrow. * * *

"The result of it all is that our land, in wide areas, is being stripped of its rich covering of soil, or gullied beyond the possibility of redemption. The annual cost of erosion to our farmers alone has been estimated at \$400,000,000. This does not take into account the destruction of the public range, the filling up of reservoirs with silt and the choking of stream channels and irrigation ditches. * * *

"I want to impress upon you that the reckless exploitation and disregardful waste of our natural resources is at the expense of all the people. They are your forests and mine and our children's that have been destroyed without resulting benefits even remotely commensurate with the value of the property destroyed. The eroded soil that is carried out to sea by the billions of tons, or blown into the air there to become a total loss, is our soil. The oil resources of the United States are the resources that nature gave us to contribute to the peace, comfort and welfare of all the people of the country. Here is a resource upon which our very life as a nation in time of war may depend that is permitted in large measure to be wastefully dissipated by greedy contestants for its exploitation who are lacking even in patriotic concern for the welfare of the country in which their own children must

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"If there is waste and destruction, the peo-

ple in the end will have to foot the bills. Before this country is through with it, the taxpayers will be called upon to expend billions of dollars to make good the ravishment of our forests, the destruction of our surface soils, the pollution of our waters, and the wasteful exploitation of our oil fields, out of all of which our 'rugged individualists,' while they may have made great individual fortunes have not taken wealth comparable to the losses that they have inflicted upon the people." * * *

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NEW OPPORTUNITIES CHALLENGE FORESTRY

(Continued from page 576)

operated on the basis of rapid liquidation. Its policy has been to remove timber rapidly; to cut out and get out without thought to the future of denuded lands; without regard to scattered, depressed agriculture and undermined economic and social structure.

"Of all of our forest and potential forest land, that now in private ownership is the most important," he declared. "It is the bulk of the most highly productive, the most accessible, the most easily logged forest land in the country. It is, too, that which has suffered most. Of the 83,000,000 acres now devastated or poorly stocked, nine-tenths is privately owned; an appreciable part of the remainder reached this condition before coming into public ownership; and ninety-eight per cent of the forest area burned annually, during the last few years, has been in private ownership."

"This ownership is, moreover, unstable. Recognizing this fact, the Forest Service recommended, last year, an acquisition program involving both Federal and State participation. It placed 224,000,000 acres as the area desirable for acquisition by public agencies within a suggested period of twenty years. This is in addition to areas now so owned and managed."

A plea for the perpetuation of a "\$2,000,000,000 fur and game industry, which pays ninety-eight per cent annual dividends" was made before the gathering by J. N. Darling, during the evening session of Friday, October 19, with James O. Hazard, State Forester of Tennessee, serving as Chairman.

Speaking on the national program of wildlife conservation and its relation to forestry practices, Mr. Darling said that fur and game production is a feasible and practical sideline to forest and land conservation, and that its increase under control is in no way detrimental to timber production, flood control, water conservation, or the prevention of soil erosion.

"Game management on a timber area will bring profits long before any income from the timber can be realized," he declared, "and these profits will help to carry the expenses of public or individually owned forests."

The annual returns from game and fur resources total probably not less than \$2,000,000,000, he said, and the amount expended in the protection and increase of fur, fish and game does not exceed two per cent of the yearly profits.

Robert Marshall, speaking on the subject of priorities in forest recreation, moved his audience with an inspired plea for the "rapidly disappearing primitive" in America.

"The critical problem in forest recreation today," he said, "is not to lay out attractive golf links among the trees, not to build summer home colonies which are harmonious with the forest, nor to construct well graded high-

ways which scar the scenery, nor to beautify the roadsides, important as such considerations may be. The critical problem is to save the rapidly disappearing primitive."

It is perfectly possible, Mr. Marshall contended, to add hundreds of thousands of additional miles to the existing roads in the country without invading the primitive. "All that is required," he pointed out, "is a little balancing of values and a little planning."

There are two worlds in which people live today, Mr. Marshall believes. First is the "world of the Twentieth Century with its great cities, its network of boulevards, its inescapable machinery, its high-tension processes of life."

The second world "does not date to any century but only to the timelessness of the primeval. It is an impersonal world in which beauty has come into being without the slightest assistance from man. It is a subtle world in which great dramas of nature are enacted only for those who have the leisure and the patience of the primitive. It is a delicate world which is irreparably ruined by the slightest introduction of artificiality. It is a peaceful world in which your most instinctive yearnings are at home with your environment. It is a world which to many contains the highest values of life. It is a world which can and must be preserved."

A series of field trips interlarded with talks by those charged with the various phases of conservation and planning in the Tennessee Valley, gave the gathering an intimate and first-hand understanding of the great project as it is actually being carried out.

The first trip, on Thursday, October 18, was to Norris Dam and the model town of Norris, where Edward C. M. Richards and Earle S. Draper discussed the forestry, soil erosion and land planning phases of the work.

In addition to being interested in the care and development of forests on lands owned by the T. V. A., Mr. Richards said, forestry work in the Tennessee Valley is concerned with the proper organization and permanent control of marginal and critical erosion areas. "This, together with the building up of the forests of the T. V. A. lands," he declared, "is the first charge of the Division of Forestry."

Mr. Draper's discussion dealt with forestry and regional planning. "We have reason to hope," he said, "that we have made a modest beginning in forestry and regional planning. We contemplate, of course, the wise use of the forest, but our objects go far deeper than the cutting and planting of trees; we go, in common with the ends of all our planning, to that ultimate human regional well-being."

The high-light of the field trip on Friday, October 19, was a radio broadcast over the coast-to-coast network of the National Broadcasting Company. This program, arranged

by The American Forestry Association through the courtesy of Frank E. Mullen, Director of Agriculture for the N. B. C., was presented from T. V. A. Camp 16, Civilian Conservation Corps Company 252, at LaFollette, Tennessee. In addition to Mr. Graves, Dr. Morgan and Mr. Silcox, the speakers included Robert Fechner, Director of Emergency Conservation Work, and Major General George Van Horn Moseley, Commanding General, Fourth Corps Area, Fort McPherson, Georgia.

The program also featured a number of novel presentations by enrolled members of the Civilian Conservation Corps, including the dramatization of Allen Cook's story "Dawn of a New Day," published early in 1934 in *AMERICAN FORESTS*, and later in the Association's book, "Youth Rebuilds."

Everett Mitchell, star N. B. C. announcer, was in charge of the program and acted as master of ceremonies. The enrolled members taking part in the broadcast were under the direction of W. Rutland Cunningham, Educational Director of Camp 16.

In his brief address, Mr. Fechner praised the courage and spirit of the Corps, and brought to the gathering the words of President Roosevelt that the work of the C. C. C. "must go on." He expressed his belief that

this great movement would become a permanent part of American life.

General Moseley declared that the Army "is proud of its part in the President's conservation program."

"We of the Army live much of our life in the open," he declared. "We are interested in these material things, but we are consecrated to something which history tells us is far more important, and that is the American boy—American manpower. There will be sound oaks in the forest if sound lads abide in the homes of the nation."

Following the broadcast and luncheon at LaFollette, the gathering inspected the watersheds of the Clinch and Powell Rivers, where T. V. A. planning is focusing at the present time. There they heard G. H. Lentz, Planting Chief, and J. H. Nicholson and John Snyder, Erosion Engineer, of the Tennessee Valley Authority.

On Saturday, October 20, a trip was made to Newfound Gap, in the Great Smoky Mountains National Park, where, amid the full glory of autumn colors, the meeting was adjourned after talks by Arno B. Cammerer, Director of the National Park Service, and J. Ross Eakin, Superintendent of the Park.

IN QUEST OF WINTER ARTISTRY

(Continued from page 558)

won. The pyramidal crest of Twin Peak rose a scant fifty feet above me, protected from my desperate attack by an overhanging drift of snow. Recklessly I tramped my way around beneath its shoulder until a break appeared, up which I clawed my way, with skis, camera, films, and tripod, to victory!

But wait! Just as I mounted the final roll of drift, and stood upright at last on level snow, a grayness washed across the virgin whiteness of the summit: far in the west the setting sun sank into the waiting blanket of cloud along the dim horizon!

"It was a great climb, anyway," I said later, as we enjoyed the familiar view—a magnificent view of endless miles of snow-laden mountains, from the Canadian Rockies southward to the Mission Range, and from the continental divide in Glacier Park westward to dim peaks near Idaho. "Now all we have to do is to drop down a mile in altitude and hike seven miles home."

Twilight grew into darkness as on our skis

and snowshoes we descended rapidly the less precipitous western slope of Twin Peak. Like gigantic totem poles the molded balsams rose above us in the gloom. As the fading light of the departed day brightened the thinner layers of the western clouds, I set up my tripod on a shoulder of the ridge, claspings clothespins to its legs to prevent them from sinking too deeply in the snow, and transcribed upon a sensitive film a permanent record of that passing moment.

And despite its lack of pictorial appeal, I value that photograph for its effectiveness in reminding me that the joy of photographing the artistry of Winter lies not so much in the acquirement of striking and artistic records as in the quest therefor. When again the long season of snow and frost and zero nights, of terrific blizzards and crisp, clear days shall reign the Rockies, I shall again accept eagerly the mocking challenge of the glistening peaks, the battleground of timberline my goal.

THE UNFORGOTTEN STORY OF HETCH HETCHY

(Continued from page 569)

for long thereafter letters of protest kept coming from many parts of the country. Secretary Garfield belittled this protest, describing it in the interest merely of campers. "I say," he stated, "that these ought always to give way before domestic need."

Off at last, San Francisco got down to the long and dreary business of raising money on the city's credit for the building of the dams.

Meantime, President Taft succeeded President Roosevelt in March, 1909, and Secretary Ballinger succeeded Secretary Garfield. San Francisco had authorized two bond issues aggregating \$45,600,000 and had made some progress in their sale, when, like lightning from a clear sky, came this from Ballinger: "In view of the importance of the public interests involved in the matter, and the Government's obligation in connection therewith, I feel it my duty to call upon you to show cause why the Hetch Hetchy Valley should not be eliminated from said permit."

This was based, of course, on the condition in the Garfield permit that Lake Eleanor should be utilized first. From Washington, where a group of San Franciscans immediately hurried, Mayor McCarthy wrote home: "President Taft showed your representatives quite clearly that the permit issued by Secretary Garfield was not worth the paper on which it was written, provided that his successor in office . . . desired to revoke the same before use vested a right."

There followed the Presidential appointment of an advisory board of three Army officers, and a hearing on May 25 at which another popular protest was made both personally and by letter. The meeting resulted in the appointment of John R. Freeman to make a complete engineering report for the information of the Army officers at the City's expense. In this report water power began to show its hand. What the engineer said



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The report was finished in 1912, and a report of the same year, by Engineer Allan Hazen, stated that possession of the reservoir "would establish a hold on other sites above," referring unmistakably to water power sites. But sale of bonds lagged and final settlement was again adjourned.

But on March first, 1913, three days before expiration of President Taft's term, Secretary of the Interior Walter A. Fisher, who had followed Ballinger in office in 1911, refused all action on the ground that he found no authority to act in law.

Upon this unexpected setback, scoring three out of four Secretaries of the Interior against Hetch Hetchy, the San Franciscans lost not a day in getting their project written into a bill for offer in Congress by Representative John E. Raker, of San Francisco. And meantime Franklin K. Lane, of San Francisco, urged upon President Wilson by interests at home, was appointed Secretary of the Interior. At the hearing before the Public Lands Committee, Mr. Lane stated that, besides water supply, San Francisco needed Hetch Hetchy's water power. If this bill should be denied, he warned, the site would be demanded at once by professional water power companies. Asked about the protest of the nature lovers," as they had come to be called, Secretary Lane said: "I have never been able to see that, by converting this valley into a lake, we are outraging nature."

A greater and more energetic protest was made before House and Senate Committees at these hearings even than before. Except for the California delegation and those of other states interested in water power, small attention was paid to the bill in Congress, and it passed in September, 1913, without opposition. The same month the O'Shaughnessy Dam was begun at the foot of the Hetch Hetchy Valley and completed in 1923, holding back a reservoir seven miles long. Lake Eleanor was also dammed. Where their outlet streams met thirty miles below, water power works were immediately established, which, within the year, sold into the power market of California electrical current producing \$2,000,000 a year.

That was ten years ago. The power plant has been enlarged and perfected since, but Tuolumne waters were not, until the end of last month, carried into the mains of San Francisco. With this San Francisco had seemed content enough, for soon it had acquired the Cherry Valley water sources. With the dry years, irrigation demands from Modesto, San Joaquin and Turlock could not be denied. Hetch Hetchy had been undertaken on an estimate of forty-five million dollars, the Sierra Club had got itself seriously criticized because it predicted a cost of seventy millions, and it had actually cost eighty millions—when tunnelling was completed in October to admit to the San Francisco water system the partial supply left.

Some time ago PWA made appropriations which will enable the dam to be raised to

its ultimate level of five hundred feet, and several weeks ago, bonds for fifteen millions more were authorized to complete the water system. Eventually San Francisco's venture into National Park waters will have cost her more than a hundred million dollars. Irrigation waters could just as well have been stored at lower levels outside Park boundaries.

When it came our turn in 1920 to defend National Park waters attacked, I made a study of the great public protest of 1908-13 to determine the causes of its failure. These were discovered to be three in number. It had not been organized, it failed to make Congressmen responsible to their own constituents, and it defended natural beauty instead of the National Park System. But the men and women of those days are not to be criticized for losing the first battle of a new type of public warfare against opponents experienced in government technique. National Park standards had not yet been recognized, nor was it realized that the National Parks all together constituted a great interrelated system, all units of which would suffer from an injury to any one. It was this conception that inspired and developed the successful defenses of the years to come.

Sherburne Lakes Reservoir, Montana, could not serve as a precedent for a reservoir in any National Park except Glacier because the organic act of no other National Park ever gave the Reclamation Service right of entry.

The planners of Glacier National Park and those of a reclamation reservoir in northern Montana came together. Both wanted the Sherburne Lakes, which lay in the flat lands of the Blackfeet Indian Reservation just outside the high mountain wall of the coming National Park. The park planners wanted them to control the road approach into the park. The Reclamation Service wanted them to supplement the rather meager waters of the Milk River Project. In no sense could they become a park feature, and the Reclamation Service, an Interior Department bureau, could be trusted to keep them sightly. So the law of 1910 creating Glacier National Park carried a clause permitting the Reclamation Service to enter the park at will. On June 6, 1914, the Reclamation Service ordered the dam constructed. It was begun on June 29, 1914. The National Park Service was created August 25, 1916, with its new conception of standards and uses, and established its policy of no commercial waters in National Parks.

As a precedent for three reservoirs in Teton National Park, the Sherburne Lakes Reservoir signally fails. So also the still older and much lesser lower Two Medicine Lake project.

Now a glance forward. From the viewpoint of today it requires little insight to find Hetch Hetchy breeding directly the project advanced in an address by Secretary Wilbur in Fresno, California, in August, 1931, to turn the scenic Kings River Canyons (between Yosemite and Sequoia National Parks) into a National Park subject to water power!

To secure this addition to the National Parks System, but with water power strictly barred, constituted the longest and most strenuous struggle in the career of Stephen T. Mather, founder of the National Park Service. In fact, it was his first project in 1914, two years before the bureau's creation, and remained his high hope at his career's tragic end in 1928. At any moment during those fourteen strenuous years he could have had the Kings River country to add to the System had he been willing to yield this corner-stone upon which the system he built was based. But he would not. Neither will the myriad defenders who follow.

THE ODYSSEY OF THE BLACKHORN BUCK

(Continued from page 565)

soberly, "some things ain't meant to be followed."

The fame of the Blackhorn Buck had all the hunters of our plantation region deeply stirred. Nearly all of them had seen him; many of them had shot at him. But still he lived. If hotly pursued, he would swim the river; but always he would return to his beloved haunts. On one occasion, at twilight a solitary hunter attempted to waylay him by waiting for him on the high bluff of the Santee at Fairfield. Some other hunters had roused him on the delta, and it was altogether likely that he would cross the river at this point to regain his home on the mainland. On the lofty bank the sportsman waited; and his vigil was rewarded when he saw a great crowd of ebony antlers moving above the yellow tide beneath him. Because of the conformation of the bluff, upon coming ashore the old stag would be obliged to take a single bypath into the pinelands. The hunter crept to a stand within easy distance of this trail. But along its dusky privacy the Blackhorn Buck never appeared. Darkness fell, and the hunter abandoned his quest, half-convinced that the negroes were right in their estimate of the nature of this remarkable deer.

Next morning, upon investigating, he discovered that the wary buck, upon reaching shore, had—probably upon detecting by scent the lie-in-wait—climbed straight up the bank for about twenty feet, and had there craftily couched himself in a mass of wild honeysuckle vines. With enemies behind him and an enemy in front, he had secreted himself where even his most inveterate intelligent foe would never think of looking for him. In a sense, "He made himself air, into which he vanished." He saved his life by a shadowy subterfuge as divergent as it was effective.

One November day word came to me that the Blackhorn Buck had been mortally wounded by a great party of hunters who had taken to the woods for the sole purpose of conquering this incomparable champion of wildwood strategy. I felt as if there had been a death in the family; for what other creature could ever invest my home woods with so much mystery, glamour, and the romance of the unexpected? Later one of the hunters told me that, though presumably killed, the Blackhorn Buck, while down, and with one hunter actually astride of him, with his knife bare for the lethal thrust, had suddenly come to life, thrown his rider headlong, and with

ten hunters and sixteen hounds streaming after him, had made good his escape.

Eleven days later, deep in deer-country, I roused the invalid. He left his bed in some high broomsedge and sailed blithely away. Yet I could see that he was not yet fully recovered. But I knew he would not die. On looking about carefully over the little arena of broomgrass, I found eleven beds. Some of these had much dried blood in them. The last had none. From each bed a hardly discernible path led down to a little pond. This place had been the deer's hospital: here had he lain for eleven days and nights; he drank deeply; there was no evidence that he had fed much during his convalescence. He had been careful to have clean sheets on his bed every night!

Not very long after that, I was one day mending a fence, and had in my hands only a hammer and some nails. Where the old fence, meandering through the wildwoods, crossed a patch of huckleberry bushes, I noticed in that low copse, not thirty yards from me, the massive crown of the King of the Woodland. So close was I that I could see him sedulously watching me. Not wishing to disturb him, I turned back toward the house, where, unfortunately, I met a hunter. Foolishly I told him what I had just seen, but added that I did not want my visitor disturbed. Unknown to me, the hunter stole out along the fence to stalk the stag. Crestfallen, he came back.

"I thought you said that buck was tame?" he protested. "Didn't you say you walked within thirty yards of him? He got up from me when I was two hundred yards away."

"A buck like that," I reminded him, "knows the difference between a hammer and a gun."

It is now seven years since I first became acquainted with the Blackhorn Buck. Still he roams my plantation woods, and in the summer helps himself to my peas and corn. Still the negroes fear him; and still I am privileged to love and admire him. For he has taught me that the natural world can develop a great personality; and whenever a hunting season passes without proving disastrous to him, I rejoice that his magnificent ebony crown is not drying out drearily at some taxidermist's, but is thrusting aside dewy pine boughs in the moonlight; or, deep in a fragrant bed of ferns and sweet-bay, is affording the shy moonbeams something really mystic on which to sparkle.

WHY BIG NATIONAL FOREST FIRES?

(Continued from page 561)

There is more to the story however. When in spite of good executive performance and all the new fire control facilities, a man-caused fire can still devastate 20,000 acres of our best ponderosa pine land in Idaho, it is well to be cautious in forecasting the future of forest protection. When two fires can defy human efforts and cover nearly 200,000 acres in the Selway, where protection had been unusually successful since 1919, we cannot truly say we are masters of fire control. Another fire starting along a railroad track in the St. Joe Forest in Idaho and reburning 27,000 acres of relatively clean old burn, was equally disconcerting. Other fires in the National Forests of Idaho, Arizona and New Mexico gave demonstration of how helpless human forces can be under certain conditions. National Forest organizations were never before so well prepared and, in certain respects, never so helpless as in 1934. Their helplessness is due

to changes in conditions which need to be appreciated by all friends of forest protection.

First of all, there is our treacherous climate. Note the way bad seasons are distributed through the thirty years of National Forest fire control, and remember that fifty-four percent of all the loss of area in thirty years on the National Forests has occurred in the seven bad years. In the first half decade there was not even one bad season. During the next fifteen years, there was a bad season every half decade. Each of the latest two half decades has included two bad years.

Then there is the menace of large new areas of bug-killed timber—particularly in the lodgepole type. Crown fires have been seen to start directly and immediately from lightning strikes in these stands. When the bug-killed trees come down we will have jack-straw jungles of windfalls comparable to the old burns on the Selway where fire fighting



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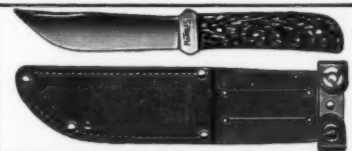
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Applications, which should be accompanied by full particulars of each candidate's qualifications, experience, nationality, age, copies of testimonials, etc., together with a statement as to the salary expected, should be addressed to the Secretary, Irish Land Commission (Forestry), 24 Upper Merrion Street, Dublin. The final date for receiving applications is the 31st of January, 1935.

operations were so severely defeated this year.

What fire technicians call "spotting" was never so bad as in 1934. "Spotting" is simply the starting of new fires by sparks blown from the main fire. One "spot" fire was seen to start six miles ahead of the main fire on the Selway. Many thousands of fire-setting sparks and embers blew over the control lines for shorter distances. All the big runs of the Selway fires are reported to have been caused by "spotting." In some of the most disastrous defeats the control lines had been mopped up and held for two days at the time fire spotted over them. The blow ups which in these instances threw the sparks and embers from one hundred yards to one and one-half miles, occurred in masses of snags and unconsumed fuel which had been burning for some time. In one instance, three competent men were unable to hold a spot fire no larger when they reached it than the bed of a small truck. In another case, 161 men were unable to hold a spot fire which was only two acres in size when they reached it.

It cannot be proven statistically but it does seem that we are being given a shorter interval of time in which to catch fires before they blow up and make their first runs. Such fire behavior is doubtless due partly to drouth conditions, but may be due in part to a suspected but unknown meteorological influence which the scientists will have to identify for us. A logging foreman and one man are reported to have reached a fire on the Boise National Forest in Idaho ten minutes after they saw the smoke. Fire line construction is relatively easy in this country and they built line after line without avail. Within one hour after its discovery 150 men were on the fire, but they never had a chance and 12,000 to 15,000 acres of choice country burned the first afternoon. The 27,000-acre fire at

Avery, Idaho, was also probably unmanageable from the very moment of its discovery.

Lack of space prevents more than a bare list of present plans for strengthening fire control. If unemployed labor continues to be available, the old burns will be cleaned up so that fire fighting will not be so heavily handicapped by the masses of debris on the ground. A vast system of storage reservoirs and tanks in the National Forests is proposed in order to make more readily available a supply of water with which fires can be drowned while small. An air expert of the Forest Service is engaged in exploring the possibilities of keeping fires small by dropping water on them from aircraft. There is not more than a hundred to one chance that this method can be made to work but no chance can be overlooked. If fires could be kept small until ground forces could reach and grab them, there would be few big fires.

The "frothy mixtures" which are sometimes used in oil fires are being tested to see if water when transported in relatively small quantities by aircraft or otherwise, can be made appreciably more effective by the addition of these chemicals. The pressure for continuous development of technique and personnel management will be increased. Training must be made more thorough and more exacting. The systems of lookout structures and communication and transportation facilities must be intensified if the increasing difficulty of fire control is to be kept in hand. By no means least important is the plan now under way for an aggressive strengthening of fire prevention measures. The 1934 number of man-caused fires will be close to the largest of any year in the history of the National Forests. All organizations, agencies and public-spirited individuals will be asked to cooperate in a Nation-wide campaign to wipe out the disgrace of the annual wastage of forest resources by carelessness with fire.

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"AFTER ALL"

(Continued from page 579)

the dining room windows, we decorated it again this time, with balls of suet in net bags, and with popcorn, for the chickadees and juncos.

In the spring the silvery-green new sprouts stood erect at the tips of the branches like candles. We knew the tree would grow!

Next year another tree was added, and another and another, as the years went on, all set far enough apart to allow room for branches to spread. The neighbor children came to play where a carpet of brown needles smoothed and varnished the soles of their shoes until they were "all slickery," and the cause of many laugh-provoking downfalls. The other children called it the Pine Grove, which always annoyed Gertrude, who knew it was made up of spruces and some balsams, and one Douglas fir that came all the way from the Rocky Mountains, and bids fair to overtop the rest.

I could go on and tell how Gertrude in after years sought her first tree in the plantation and poured out to it her childish sorrows and her maidenly joys, and her more mature problems. But that would be another yarn altogether.

This Christmas-tide I am thinking back to the moment of that New Year's eve, when the little Gertrude of those days, recognizing the tree she had "snooted," drew my face down to the level of her small stature and whispered:

"You are a good Daddy—after all!"

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Sustained Yield Progresses in
California

The Diamond Match Company, with lumber operations near Stirling City, California, has been rewarded by the Lumber Code Authority with an additional production allotment of ten per cent for placing their lumbering operations in the counties of Butte, Plumas, Shasta and Tehama on a sustained yield basis in accordance with the conservation provisions of Schedule C of the Lumber Code. The company's application for the additional allotment was granted upon certification by the Western Pine Division.

CHRISTMAS TREES

(Apologies to Joyce Kilmer)

I hope that I shall never see
A child without a Christmas tree.

A young fir tree, from forest glen,
Symbol of peace, good will to men.

A tree whose slender, pointing spire,
Leads human thoughts to pure desire.

It speaks of useful, peaceful life,
Away from worldly, bitter strife.

A simple child of snow and rain,
The hope of Christ; surcease from pain.

Forests are burned by fools, you see,
But God gave the child his Christmas tree.

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WHO'S WHO

Among the Authors in This Issue

WINTON WEYDEMEYER (*In Quest of Winter's Artistry*) is not a newcomer to AMERICAN FORESTS but is well remembered for his timely and interesting articles. His hobby is probing the Montana wilderness, climbing mountains; he never misses an opportunity to challenge the highest peaks of the Rockies.



Winton Weydemeyer

ARCHIBALD RUTLEDGE (*The Odyssey of the Blackhorn Buck*) needs no introduction to nature lovers, for his books and articles are widely read. He is a conservationist of national repute. Native of South Carolina, he now makes his home in Pennsylvania.

ROY HEADLEY (*Why Big National Forest Fires?*) is in charge of Operations for the United States Forest Service at Washington, D. C. An executive and organizer of unusual ability, he has been an important factor in perfecting the operation plan of the National Forests. A graduate of the University of Idaho, he was appointed a forest ranger in that State in 1907 and served a number of years in the West in various positions before coming to Washington in 1919.



Roy Headley

BRISTOW ADAMS (*"After All"*) comes back to the columns of AMERICAN FORESTS with this delightful contribution to our Boys' and Girls' Page after an absence of many years, for his work was formerly a regular feature. A native of Washington, he was associated with the United States Forest Service as an editor in 1906, became a professional forester through technical examination, and rose to the grade of Forest Examiner. A graduate of Leland Stanford in 1901, he specialized in English. He left Washington for Ithaca in 1914 to become editor for the State Colleges and Agricultural and Experiment Stations at Cornell University, where he teaches a course in Conservation and Natural Resources, and several courses in journalism.

ROBERT STERLING YARD (*The Unforgotten Story of Hetch Hetchy*) organized the National Parks Association in 1919, and has been a stimulating influence in Park matters since then. The author of a number of books, Mr. Yard was at one time Editor of the *New York Herald*, and Editor-in-Chief of the *Century Magazine*. He is a frequent and welcome contributor to AMERICAN FORESTS.



Robert S. Yard

R. H. RUTLEDGE (*The Yule Log is Coming Back*) is Regional Forester for the United States Forest Service at Ogden, Utah.

TODAY when the forests of the nation are being spot-lighted by the National Recovery program the figure of the forest ranger stands silently behind the scenes, the bulwark of all activities.

The role is not new to him. For more than a quarter of a century—since the beginning of forest protection and management in America—he has been the one to face the perils of forest fire, to ride without food, without sleep, to rescue hunters and others lost in the forest wilderness.

His the responsibility to keep trails and roads open, telephone lines up, to settle grazing and timber disputes, to enforce hunting and fishing laws.

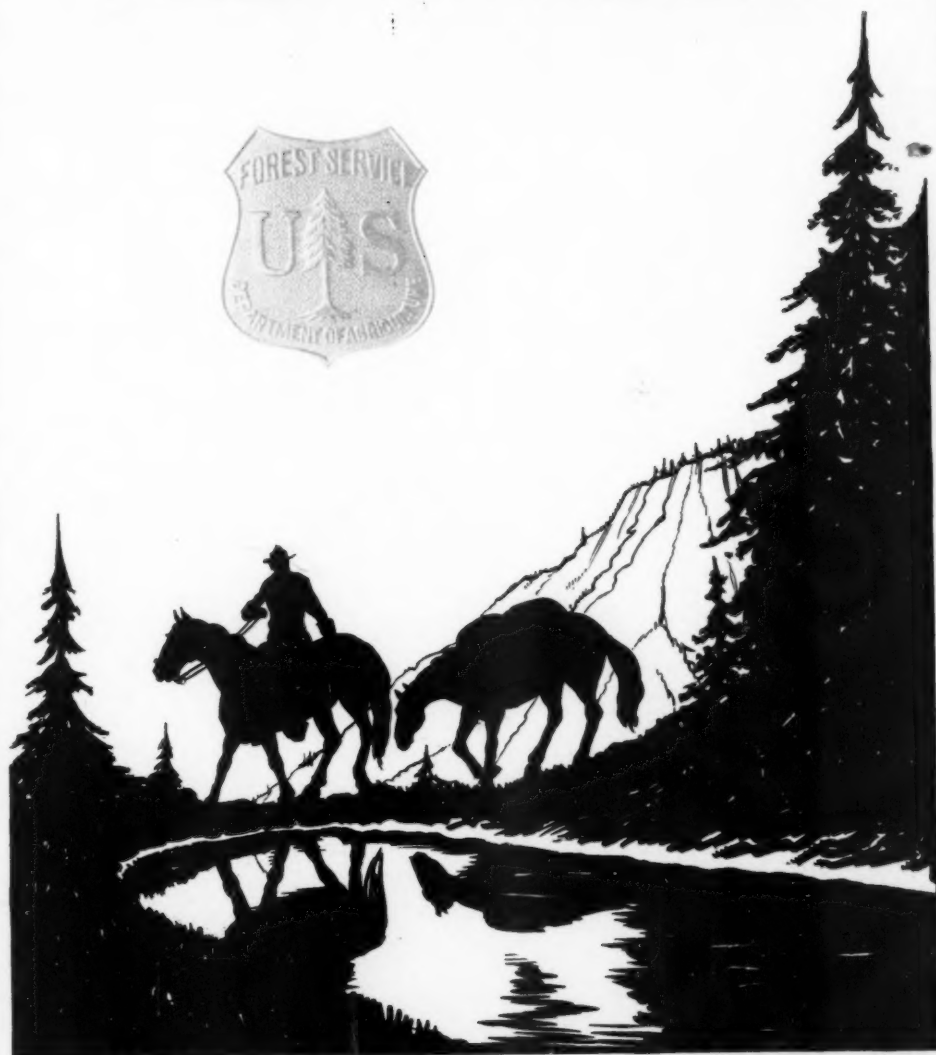
Forester, engineer, diplomat, and counselor, the ranger of the Pine Tree Shield—the emblem of the United States Forest Service—is one of the most interesting figures in America today.

Yet his life and work remain a mystery to a great many people,—probably because rangers seldom talk or write of personal deeds and experiences.

Ovid Butler, however, as editor of *American Forests*, has been successful in bringing together in "Rangers Of The Shield" a collection of stories written by these guardians of the forest—the sort of stories that are told around the campfire when rangers gather.

They are full of the drama, humor, and adventures which form a part of the work of protecting and administering the National Forests of the West.

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